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OCTOBER, 1947

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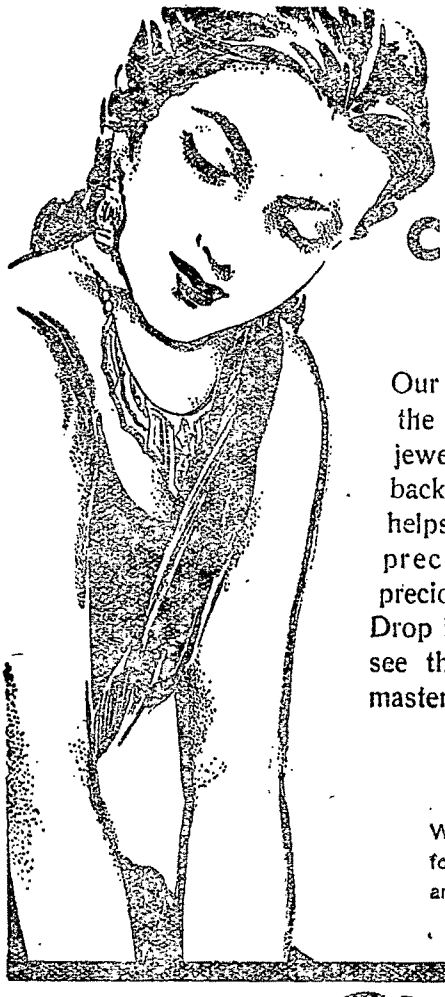

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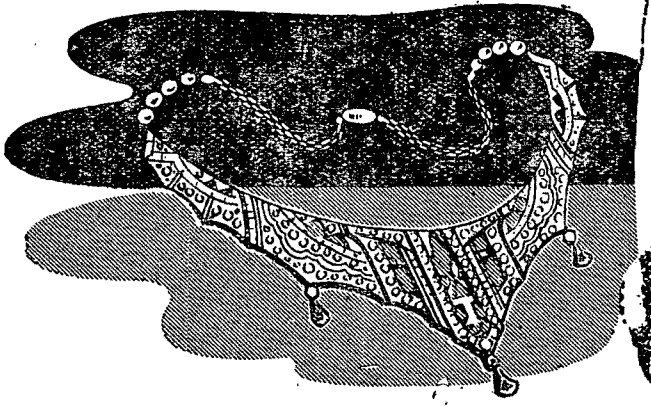

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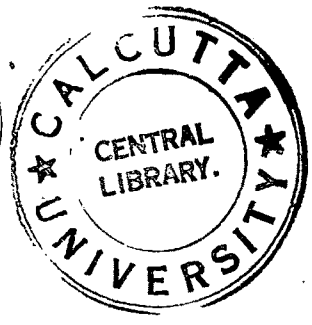

THE

CALCUTTA REVIEW

OCTOBER, 1947

SONGS OF VAISHNAVA MYSTICISM

ADAPTED FROM CANDIDASA

LOTIKA GHOSH
Bethune College, Calcutta

The Theme

To Vaishnavas the means of attaining salvation and re-union with the divine was through the path of love and devotion. Love was the means, both of release from the objective world and its illusion, and of re-union with the Infinite Bliss. Radha-Krishna in their united form was the Infinite Bliss—the Infinite with its Hladini Sakti or Power of Bliss. The abode of Radha-Krishna was the Eternal Vrindavan (Nitya-Vrindavan). Here they enacted their Eternal Play (Nitya-Lila), from whose joy sprang creation, surrounded and helped by the gopis who were eternally liberated (Nitya-Siddha) souls.

Radha-Krishna however re-incarnated themselves into the shadow-World of the earthly Vrindavan, which was according to the Vaishnavas the mirrored reflection of their eternal play. Their re-incarnation had a double purpose to enjoy and taste the joy of their own play on lila and to free human souls from the bondage of illusion.

Such then is the spiritual background of this love pastoral of which Radha and Krishna are the central figures with the gops (cowherds) and gopinis (milk-maids) as their associates.

As through the transformation of earthly love with all its limitations and sufferings the path of divine love was to be carved, Radhika

CRCU 320

C REU 320

goes through all the sufferings of limited earthly love to attain the Bhava-Sanmilan or re-union in spirit with her beloved Krishna. It is for this that Krishna arouses the jealousy of Radhika by his association with Chandravali and by his play with the gopis. It is for this that he deserts her and goes to Mathura and falls a victim to the wiles of Kubja, and when Radhika is almost on the point of death occurs the Bhava-Sanmilan or the re-union in spirit.

The Vaishnava poets have used numerous emotional movements in unfolding this fine Sonata of love. Only five main movements however have here been taken. Purva-rag or the Dawn of Love, Avisara or the Tryst, Akshep-anuraga or Love in Regret, Mathur or Separation (by Krishna's departure to Mathura) and Bhava-Sanmilan or the re-union in spirit.

The love of Radha-Krishna is conceived as Parakiya love, or love outside the pale of marriage. In this conception of the love of Radha-Krishna, the Bengal Vaishnavas were revolutionaries as all other Schools of Vaishnavas regarded their love as Swakiya or within the pale of marriage, conceiving of Radha as Laksmi, the married consort of Narayan and Krishna as Narayan.

The grounds on which Parakiya love was regarded as superior o Swakiya love was that Parakiya love was cönsidered more powerful than Swakiya love because of the impediments in its path, and because of its unshackled freedom from all conventions and laws.

Purva Raga or The Dawn of Love

These ten poems are arranged as a duet in which Radha and Krishna each reveal the dawn of love in their hearts—Krishna the infinite glimpses his lost bliss Radhika. Like a flash of lightning she comes to view as she goes to the river Jamuna to bathe. He surges in love towards her and existence without her seems intolerable. Radhika too has seen Krishna of the sky-blue hue. Irrevokably she is drawn towards him and is lost in Krishna's charms. Then begins the sweet play of their mutual attraction for each other. Radhika's coquettry (the rich unfolding of bliss) and Krishna's magic flute call draws all sentient beings towards him. As love deepens their absorption in each other acquires a trance-like quality in which they seem to sense each other's divinity.

GS 1625

Krishna— 1*

A sunbeam bright
With beauty alight
I saw her go to her bath.

A flowery essence
Of tender presence
The bees crowd round her path.

Her jewels grow dim
As each shining limb
In beauty brightly beams,

As in youth arrayed
To my heart dismayed
A lightning flash she gleams.

A moment's sight,
Radiant, bright,
My heart is set ablaze.

My life is vain,
Unless again,
I see her I am acraze.

Radhika— 2†

The river bank,
So green and dank,
Is full of the dark one's lure.

Of hue so blue,
A charmer true,
In love's net he'll catch you sure.

His dancing gait,
Love's own bait,
See Madan lend him his bow.

* সখীগণ সঙ্গে যায় কত রঙ্গে
যমুনা সিনান করি।
† না যাইও যমুনা কূলে।

A crescent sweet,
His coronet meet,
On his brow shines bright a-glow.

His piercing glances,
The heart entrances,
As his flute to infinity calls.

With music thrills,
My desire fulfils,
My soul to him recalls

His lotus face,
So full of grace,
Full soon the heart must melt.

If you him see,
Your heart he'll fee,
In love's fire your senses smelt.

Krishna— 3*

A maid at play,
A lightning ray,
Her body a golden shrine.

Her curling hair,
Coiled how fair,
My heart in their strands entwine.

With side-long glances,
She makes advances,
Her smiles a sunny beam.

As at ball she plays,
On the bank delays,
I see her fair thighs gleam.

Coquettish she thrills,
My heart she fills,
With her laughter bright and gay.

* থীর বিজুরি বরণ গৌরী
পেখিনু ঘাটের কূলে।

Her crimson feet,
A-tinkle to meet,
Charming why seeks she delay.

Radhika— 4*

Ambrosial sweet,
A vision fleet,
I saw his form shine fair.

Eyes restless gay,
In moonlit array,
With glances love's sweet lair.

His countenance brave,
Must my heart enslave,
His cheeks a hybiscus bower.

From cherry red lip,
Soul honey I seep,
In ivory-white arms what power !

Mirrored in his nails,
Time tells her tales,
Freed from her finite pall.

A conch shell spire,
Is his throat's sweet lyre,
His voice a cuckoo-call.

Tumeric bright,
His beauty alight,
From the King-cup's gold is culled.

Of marble made,
With jewels in-laid,
On his bosom the world is lulled.

What blossoms gay,
His body array,
In soul tints our hearts they bind.

* সুধা ছানিয়া কেবা এ সুধা ঢেলেছে গো।

His thighs arise
With strength aprise
God-ward they lift our mind.

Krishna— 5*

In bright array,
With her maids at play,
A maiden in the river bathes.

Her body bare,
Without compare,
A blue veil transparent swathes.

Her breasts so pointed,
With desire annointed,
From her bosom mutinous rise

Her flowing hair,
On body fair,
In serpent coils surprise.

Her white shell bangles,
The heart entangles,
Like crescent moons they shine.

Her glances caress,
With ardour press,
Love's wine from vats divine.

Radhika— 6†

Under a tree,
My heart to fee,
A flute in his hands he stands.

Others to capture,
The heart to enrapture,
There are maidens enough in these lands.

Of good repute,
Why must his flute,
In its notes my name repeat,

* স্বজনী কেহে এ ধনী বটে।
গরচনা গৌরী নবীনা কিশোরী
নাহিতে দেখিনু ঘাটে।

† স্বজনী কি হেরিনু যমুনা-কূলে।

Oh by what art,
Is conquered my heart,
In his flute call what magic replete.

In garlands wound,
A-tilt is bound,
His hair with a feather crowned.

The bees in a crowd,
For honey becloud,
Fawn round him with buzzing sound.

His hair in coils,
Cupid foils,
As tied in a knot they tower.

Fallen from the skies,
The crescent moon lies,
Lost in this floral bower.

What infinite theme,
In his pose lies a-dream,
As he leans on a tree a-musing.

In darkness light,
The heart to plight,
The soul with matter fusing.

Krishna— 7*

As evening tolled,
The sheep to the fold,
In spotless beauty unblamed.

She passed me by,
She charmed my eye,
This maiden still unnamed.

Her countenance fair,
Her graces rare,
In my memory still abides.

* বেলি অসকালে দেখিনু ভালে পথেতে যাইতে সে।

In a golden bowl,
She holds my soul,
All charms in herself confides.

Her thin blue veil,
Flies a-sail,
In walking her fair side gleams.

My heart a-prey,
For her to slay,
I lay, as in beauty she beams.

A furtive glance,
She throws askance,
Her modest eyes she lowers.

Her graceful gait,
Love's own bait,
What sweetness she round her showers.

Radhika— 8*

Like a raincloud blue,
His beauty to view,
My heart in faintness sinks.

Like a moon-bird curst,
My eyes athirst,
His nectarous presence drinks.

My soul a-daze,
I can but gaze,
Entranced on his beauty fair.

He shoots love's arrow,
Our hearts to harrow,
Till to him our souls we bear.

If maids insane,
Their good name stain,
No man such maids may blame.

* জলধর কানু দলিত অঞ্জন তনু
উদইছে শুধু সুধাময়।

For what maid if kissed,
Can him resist,
Oh tell me still her name.

Krishna— 9*

What bliss from heaven,
The soul to leaven,
Is held in a maiden's frame.

To touch its gold,
My limbs are cold,
In a trance I hear her name.

At the very sound,
The soul is bound,
Like a sheep to shores divine.

What knowledge to reap,
What tryst to keep,
A-tremble my senses pine.

If but her sight,
The heart can light,
Her touch what joy must store.

To regions unknown,
My soul has flown,
I know nor bound nor shore.

Radhika— 10*

The ear penetrating,
The heart consecrating,
The beloved's name I hear.

How honey sweet,
Its sound I repeat,
To my heart a rosary dear.

Each bead a spell,
As his name I tell,
I faint in extasy sweet.

* সই কেবা শুনাইল শ্যাম নাম।

Oh ! if such power
His name can dower,
What fires his touch will greet.

The eye to delight,
The heart to plight,
Chastity he comes to chasten.

In love's chains to bind,
My heart, my mind,
My soul to infinity hasten.

CHEMICAL WARFARE IN ANCIENT INDIA

V. R. KOKATNUR, PH.D.

Captain, U. S. Army—Chemical Warfare Section

INTRODUCTION

THE beginning of Chemical Warfare is generally traced from the Grecian stink-pot, and as Greece is believed to have cradled modern civilisation it is not surprising that we should find in the history of that country reliable evidence of the origin of Chemical Warfare. The fact that many civilizations may have preceded that of Greece suggests that the parentage of the Grecian civilization lies within the annals of an earlier and perhaps greater dynasty. The civilization of Greece is relatively young in the history of the world and unfortunately the continuity of its hi tory is not unbroken, thus making investigation somewhat difficult. One might turn with good reason to a search of the great epics of Greece, to the Iliad[1] and to the Odyssey, but here little or no trace of the employment of Chemical Warfare is to be found.

From careful investigation, therefore, it is suggested that India might lay substantial claim to precedence as the country of origin of Chemical Warfare both from its antiquity and the evidence in the pages of its history. The aim of this essay is to indicate sources, produce evidence and adduce arguments that uphold such a theory.

SIGNIFICANCE OF HISTORICAL EVIDENCE

The usefulness of history as a study is often thought to be without point, but such an opinion is not held by those who have examined as in this case the records, well-authenticated and corroborated, of such a country as India and found therein details of irrefutable conclusion. The past, the present and the future are links in the chain of time and are therefore inseparable. Since, as Emerson said, we fuse the past into the present and therein cast our fate in the mold of our own making, we cannot progress intelligently in any study without the basis of good sound history. The present is built up of the lessons of the past, just as the future will be built on lessons we learn today. Thus the lessons of the past are as beacons to light

the pitfalls of today and to point new avenues in the pursuit of knowledge.

History for its own sake would be but an idle pastime. Yet the lessons of history do great service in preventing the mutilation of fact by the hands of carefree imagination. In the history of science as in that of politics, anthropology, religion, etc., there are the unfortunate gaps which we must try to fill with reliable evidence. The story of Chemical Warfare started in ancient times, but it seems that a gap of more than twenty centuries has elapsed before its rediscovery today.

The Outposts of Indian History

Before presenting arguments and proofs it is well briefly to describe certain high points of Indian history that will be referred to hereinafter.

The ancestors of the present Aryan Indians migrated into India from the north many milleniums ago. The exact date of this emigration is unknown today and possibly never will be known but scholars have estimated the time to have been somewhere between 10,000 and 2,000 years before Christ. Jacoby and Tilak[2] set this period in the fifth or sixth millenium B.C. and based their conclusions from certain astronomical evidences occurring in the most ancient Hindu scriptures—the Vedas. This age we will refer to as the "Vedic Age" (4-3000 B.C.) for the purpose of encompassing our study.

In the next age (3-2,000 B.C.) were conceived the various philosophies and sciences, and this age might be termed the "Upanishad period."

The third period (2-1000 B.C.) enshrines the growth of settled life when great empires grew and decayed. In ancient India this period of dynastic birth and decline may be termed the "Epic period."

The next or fourth phase (100 B.C.—800 A.D.) starts with the birth of Buddha from about the sixth century B.C. and ends about the eighth or ninth century A.D.; this might be named the "Buddhistic or Classical period."

In this way Indian history before Christ is divided into four phases or periods, each of approximately a thousand years duration; this estimate being founded mainly on the work of Jacoby, Tilak and Vaidya.[3]

We find an advanced civilization in India during the first period and evidence of the existence of all elements of useful branches of

knowledge. The Indian language was the most highly developed in the world at this time and remains today unsurpassed by any other. The second period was even more notable on account of the development of philosophy and sciences and might well be regarded as the cultural zenith of Indian history. All the landmarks of science and philosophy must of necessity belong to this period. The value and extent of knowledge in the various philosophies and sciences of this time have been found to be greater than that of any country in antiquity and even surpasses that of Greece.

Source-material

Military Art in General

The Vedic period (4-3000 B.C.) is known to have three works on military art, of which two only have been found up to the present day. This art is known generically as " Dhanurveda " ; the ending " veda " means knowledge and is derived from the same root as the words wise, wisdom, and wissenshaft ; these works were probably written in the latter part of the Vedic age or the first part of the second or Upanishad (3-2000 B.C.).

About the same time certain systematic treatises on Vedic literature came to be known as " Samhitas." Among these occur works known as " Bhrigu[4] Samhita " and " Brihat[5] Samhita," which also deal with warfare.

Then there are many books on law and ethics referring to this subject. Among these may be mentioned Manusmriti and the three " Niti-shastras," by Kamandaki, Kautilya[6] and Shukra.[7] These perhaps belong to the fourth age, *i.e.*, about the beginning of the Christian era, although the material and information is supposed to be drawn from literature of the first or second age.

The two great epics of India, the " Ramayana "[8] and " Mahabharat "[9] describe both the theoretical and practical approaches to warfare as examplified in two of the great wars. These works describe the tactics, formations and various military weapons in such detail as to leave no doubt regarding the status of the art. Of course, the epics are from the third or epic age (2-1000 B.C.), though they might have been written in the latest age, at about the Christian era.

Then there are many miscellaneous works such as " Yukti-Kalpataru,"[10] " Maya-mata," certain " Upanishads," " story books " and " dramas " which contain some of this information. One of

the most ancient story-books which was translated into Latin and other languages at about the time of the Christian era devotes one whole book to teaching the art of warfare. This book is known as "Pancha-Tantra."[11]

It is thus readily seen that India gave attention to this subject as a science much earlier than any other country.

Status of the Art in General, and Evidences

Warfare has always been practised by humanity in its various stages of development. We find primitive warfare among Bushmen of Australia and the aboriginals of Africa and many other primitive races. All ancient civilised people such as the Babylonians, Assyrians Chinese, Egyptians, the Persians and Greeks, have resorted to war at one time or another. But none of these people except the Hindus made it a science and wrote text-books thereon at such early times, except perhaps, the Egyptians. The following text-books among others may be mentioned as examples :

Dhanurveda by Jamadagni[12]
Bhrigu[4] Samhita
Brihat[5] Samhita
Artha Sastra by Sukra[7]

The general warfare is divided into five types as follows :

1. Hand-to-hand fight without arms.
2. Fight with arms non-projected and in hand.
3. With arms projected from instruments.
4. With arms projected by hand and without return or with return.
5. With magical or chemical projectiles.

The army was divided into :

(*a*) foot soldiers or infantry ;
(*b*) horse-soldiers or cavalry ;
(*c*) camel-corps ;
(*d*) elephant-corps ;
(*e*) vehicle-corps ;
(*f*) boat-corps.

It was mainly divided into two parts :

1. Self-moving.

2. Non-self moving, *i.e.*, moving with the aid of vehicles or animals. It may be one's own or that belonging to the allies of vassals. It may be trained or untrained, officered by the state or not officered by the state, equipped or not equipped by the state, etc.

There were mercenary armies.

The relative proportion of the various constituents of the army is described as follows :

(1) 3 chariots,
(2) 16 bulls,
(3) 2 elephants,
(4) 10 camels,
(5) 80 horses,
(6) 2 cannons,
(7) 6 clerks,
(8) 3 councillors,
(9) 300 infantry,
(10) 100 reserve.

The military age of man is given as between 20 and 60 ; of elephants also 20-60 ; horses and camels and bulls as between 5 and 16 years.

The smallest unit in the army was composed of six infantry men and was officered by a man who was known as Pattipal. The next unit was 30 and was headed by Gaulmika. The third was 100 headed by a Shatanik, the fourth was more than 100 headed by an Anushatik, the fifth was 1,000 headed by a Shahasrik and the sixth and last was 10,000 headed by an Ayutik. In this connection it should be noted that ancient Egyptians[13] had a similar organization of their army. According to some, an army corps consisted of 109,350 men.

Their knowledge of gun powder, guns, cannons and many other subjects is obvious in these writings. They classified the various forms of warfare and concluded that mysterious or chemical warfare was the best and most humane. They understood that chemical warfare and surprise attacks produced heavy casualties. They also realized the importance of espionage and counterespionage. They did not trust the treaties or promises of the enemy and had commanded that one ought always to be prepared to browbeat the enemy. We will quote a few important passages from some of these books and the the reader may form his own opinion regarding the status of the art.

EVIDENCES

The following are translated from Sukra's[7] Nitishastra Panin Office Edition, chiefly Chapter IV ; Section I on Army :

" Of these seven constituent elements of the Kingdom, the soverign is the head, the minister is the eye, the friend is the ear, the treasure is the mouth, the *Army* is the mind, the fort is the arms and the state is the legs."

This shows the importance of the army in the state.

" By making the secret spies keep information as to who are accusing his conduct, in what light the ministers and others who know it are viewing it,.....the King deserving praise, should always know his own faults from the standpoint of the subjects and get rid of them but never punish the people."

This shows the spies were not only used against the people and against the enemy, but were also used for the people and against the soverign.

There were many executive branches of the army such as finance, quarter master, keeper of animals, etc.

" Of like qualifications, there should be appointed men to serve elephants, camels, etc."

" That man is to be in charge of clothing, who can distinguish the values of woolen and silken clothes.....etc."

" That man is to be superintendent of tents and furniture, etc."

" They are to be appointed as secret spies who are adepts in understanding the activities of enemies, etc., and who can faithfully reproduce what they hear."

" The army is of two kinds (1) self-moving and (2) moving with the aid of animals and vehicles, etc."

" Strength of the Physique is to be promoted....by means of exercise, parades and adequate food."

" The King should have his infantry four times the cavalry ; chariots half of elephants and cannon twice the chariots."

" The wise should never use the very raw recruits even though they are in great numbers."

" Astra " is that which is thrown or cast by means of charms, machines or fire." (It is believed that " Astras of Charms " are chemical warfare weapons.)

" The king who desires victory should use " Charmed astra " first and in its absence should use " tubular astra." The tubular astras are evidently guns and cannons.

" The nalikastra " is the cylindrical or tubular instrument to be used by infantry and cavalry, having a horizontal and straight hole at the origin, the length of two cubits and a half....which has fire produced by the pressure of a machine on flint....holds gunpowder in the interior, etc."—same in Dhanurveda[12] of Jamadagni.

The composition of gunpowder is given as five parts of nitrate salt, one part sulphur and one part charcoal. It is interesting to note in this connection that all these constituents were indigenous to India.

" Experts make gunpowders (lit. trans-fire powder) in various ways and of white and other colors according to the relative quantities of constituents, *e.g.* charcoal, sulphur, nitre, and red lead, orpiment, realgar, iron fillings, indigo, camphor, lead, etc."

" The balls are made of iron, lead and other metals."

" The balls in the instruments are flung at the aim by the touch of fire."

" The Daiwika " warfare (Divine, or best) is that in which charms (chemicals) are used, the " Asura or next best " (devilish) is that in which mechanical instruments are used and the lowest is that in which hands and hand-held weapons are used."

" Yana " is the expedition for the furtherance of one's own objects and destruction of enemy's interests." This seems to be the offensive mode.

" Yanas " or offensive modes are of five kinds :

Vigrihya, Sandhaya, Prasanga, Sambhûya and Upershya.

If there be danger ahead, the commander should march in the great " Makara or crocodile array, etc." If there be danger behind the " shankata or carriage array, etc." Eight different arrays are described for various occasions."

" One should subjugate the enemy through protracted processes by which provisions such as food and fuel are cut short." This evidently corresponds to our present blockade, embargo, etc.

Six ways of statecraft and many laws of belligerents and nations have been mentioned.

" That war with mysterious or charmed instruments is known to be the best of all in which the foes are destroyed by arrows and other arms rendered powerful through being applied with mysterious charms." Same in Dhanurveda by Jamadagni.[12]

" The war with mechanical instruments leads to great destruction of the enemy in which balls are flung at the objective by the applica-

tion of gunpowder in cylindrical fire-arms ; " same in Dhanurveda by Jamadagni.[12]

" There is no warfare which annihilates the powerful enemy so much as the Kutayudha " (surprise or deceitful attack).

" He should overpower the enemy by the aid of prostitutes, dancers, etc."

The astra is of three kinds, *e.g.*, hand projected, machine projected and Mantra (chemically projected." Dhanurveda by Jamadagni.[12])

Also according to Yukti[10] Kalpataru, the Astras are divided into two kinds (1) from which the damage is obvious and (2) from which the damage cannot be seen.

The above quotations are not later in origin than the Christian era, although the definite date of the work is unknown.

Hot oil, incendiaries and poisonous projectiles are mentioned as examples of the latter.

The Kautilya's[6] Artha Shastra (4th Century B.C.) also mentions most of the things referred to above. It enumerates seven types of material. The third classification is given to immobile weapons, the fourth to mobile weapons and the sixth to chemical warfare weapons or charmed projectiles.

Innumerable details, regarding the arrangement of troops in action, the care of the wounded, the qualifications and classifications of spies, the various kinds of defensive warfares, fortifications, etc., are described in this and other treaties writen in the period before the 4th Century B.C.

Chemical Warfare

This forms part of the warfare conducted with the aid of projectiles. Projectiles are divided into two kinds depending upon their quality and three kinds depending upon the way they are thrown. While the word " projectile " is not synonymous with chemical warfare agents and might include even a stone discharged from a sling, many of the projectiles mentioned leave no doubt as to their similarity to the chemical warfare agents.

One division of projectiles is known as " Mayic " and signifies that they are mysterious, illusory or magical in character. It is also stated that these produce incalculable number of casualties. Nearly a score of these together with the effects have been mentioned by name in the two epics Ramayana[8] and Mahabharat.[9] The very names of these are indicative of their nature. Thus " Agneyastra "

means a projectile of fire, since the word astra means a projectile and Agneya means " of fire." The latter word in derivation is allied to English—" ignition." The name "Sammohanastra" signifies a projectile that produces stupor, enchantment or hypnosis. The name " Timirastra " signifies a projectile that produces darkness or blindness, and therefore, a tear gas. " J-rimbhaka-stra " signifies a projectile that produces prolonged yawning. " Varunastra " signifies a projectile with salty liquids, *i.e.*, probably acid and "Vayavyastra" a projectile with air or smoke. The characteristics of the other projectiles are difficult to interpret. The effects of some of them were to quench fire, produce optical illusions, horrible sounds, etc.

It is interesting to note that the Hindus seem to have used anti-chemical projectiles to counteract others, however fanciful this may appear. This is quite suggestive, but seems as though it were an unmistakable prediction of today's technique of counter-measures in warfare on sea and land. Many of these weapons were projected from bows in the form of arrows. For this purpose arrows were made hollow or were provided with hollow-knobs. While it is difficult to identify these missiles positively as chemical warfare agents, all evidence points to such a conclusion.

Evidences of Chemical Warfare

The following quotations from the Ramayana[8] of about 2000 B.C. and the Mahabharat[9] of about 1500 B.C. indicate the nature of the secret or mysterious weapons, which we believe are chemical warfare weapons :

Ramayana[8] : 2000 B.C. R. C. Dutt's translation—

" ....Vishnu's wondrous weapon take,
Heavenly artist-Vishwakarman shaped this bow of heavenly make ;
Take this shining dart of Brahma radiant like a tongue of flame, (*a*)
Sped by good and worthy archer never shall it miss its aim,
Impious foes of bright Immortals, know these weapons dread and dire,
Mowing down the ranks of foemen, Scathing like the forest fire.
Quick as India's forked lightning are these arrows feather plumed,
Deadly as the hissing serpent are these darts with points illumined."
By the flaming shafts of Rama, thou shalt die by will of Heaven,
Matchless in his magic weapons, then he hurled his Naga-dart,
Serpent noose upon his foeman, draining life blood from the heart.
Vainly then the royal brothers fought the cloud enshrouded foe, (*b*)
Vainly sought the unseen warrior, dealing unresisted blow,
Rama and the powerless (*b*) Laxman fell and fainted on the field, (*c*)

With his darts like shooting sunbeams cleft each arrow as it came,
Ravana drew at last his Sakti gift of Gods (*d*) in days of yore."
Deadly arrows keen and flaming from the hero's weapon broke;
Then with weapons consecrated, hid in mists as once before
Indrajit on helpless foeman did his fatal (*b*) arrows pour.
Then on Rama and on Laxman, from his dark and misty shroud
Indrajit, discharged his arrows bright as sunbeams through a cloud,
To the holy Nikumbhila, Indrajit in secret hies
For the rites which yield him prowess, hide him in the cloudy skies.
Like a coward hid beneath a mantling cloud, (*b*)
Thou hast battled like a caitiff, safe behind the sheltering shroud (*b*);
Until Rama in his ire, wielded Brahma's deathful weapon flaming
with celestial fire;
Weapon which the Saint Agastya had unto the hero given,
Winged as lightning dart of Indra, fatal as the bolt of Heaven
Wrapped(*b*) in smoke and flaming flashes, speeding from the circled
bow."

Ramayana[8]: By M. N. Dutt—Trans.

Ravana discharged seven shafts furnished with knobs,
Thereupon Laxman split them up with sharp pointed arrows,
Ravana hurled at Laxman the dart resembling smoky fire sending
up living flames. (*b*)
And Laxman hath been wounded with the dart and hath suddenly
been stupefied, (*c*)
And others dropped down—and some lay insensible as if dead; (*c*)
Then he took an arrow of Indra, whetted and knobbed and like
unto the destroyer himself,
And he sent a shaft reciting a formula for the Agneya weapon and
these at his arrow as well as bow flamed up."
Then Aikaya used Rudrastra as a counter (*d*) weapon,
And there like a pair of infuriated serpents those arrows
With their heads flaming in energy, baffled each other in the sky
and then fell down to earth,
And clouding the whole sky with smoke that effulgent one enveloped
in frost, hid himself from their gaze,
And in that terrible darkness (*b*) of clouds began to make a down-
pour of arrows, etc.
Thereupon Rama, began to aim his sharp shafts to the direction
whence the arrows came;

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Like unto the sun hidden in clouds they could see neither his countenance and motion nor his bow (*b*) and arrows,
And smit by Laxman with arrows..Indrajit for a while was stupefied and had his senses overwhelmed, (*c*)
And pierced the son of Ravana with shafts resembling the venom of a poisonous serpent."

Trans. P. C. Roy. Mahabharat,[9] 1500 B.C.

"Beholding Bhima overwhelmed by Narayanastra, Arjuna, for baffling its energy covered him with Varunastra, the fire of that weapon consumed them not....(*d*)....in consequence of the force of Varuna weapon."

Interpretation of Evidence

Whether one finds the evidence contained in the foregoing quotations to be convincing or not it cannot be denied that Chemical Warfare or something akin thereto is strongly suggested in these writings. Cursory reading of the epics of India cannot fail to bring before one's mind a clear connection between the ancient art of warfare and that practised in the last world war. More particularly, when one reads of fire weapons, smoke screens, hypnotic weapons and anti-weapons, even if it should be proved that such description is nothing short of poetic fancy, it remains to the credit of the Hindus that they of all the ancient peoples have described chemical warfare with vivid realism. Since, the urge of necessity must precede all action, in this respect at least, Hindus must be credited with priority

It should be noted that the epics are not the only ancient books which mention this form of warfare. We find mention of such magical missiles even in the Vedas and the Upanishads. There are at least three reported treatises on warfare which also mention them. Then the many Nitishastras, story books, some Samhitas and nearly eighteen semi-historical Puranas also mention them. Therefore even poetic fancy was not the distinction of a few isolated individuals but had found favor with the intellectual hierarchy of the different ages. It is not too much to expect that poetic fancy would have found a place in literature sacred for its scientific accuracy and its law.

The auto-biography of chemical warfare as gleaned from linguistic evidence also points unmistakably to this conclusion. Let us see what the various agents themselves have to say. First, the word "Astra," comes from a root "Asa"—meaning to throw or project

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and therefore refers to a projectile or missile. These projectiles from a qualitative standpoint, are divided into two classes according to ancient treatises. The second class is known as " Mayik Astras." This signifies that the projectiles referred to are magical or illusory or mysterious. The word " Mayic " is identical with the English word " magic." If we remember that the very word Chemistry is derived from a word which means " black art," we will understand the significance of the term magical projectiles.

In ancient civilisations knowledge and education were not common, but were exclusive to a sacred few. Therefore, those who prossessed knowledge guarded it with jealous care and called it by names which signified that it was obtained by supernatural means. They felt sure that such tricks would even prevent anyone from attempting to discover anything about it. Even as late as the 15th Century, Roger Bacon used cryptic language in describing chemical formulae to keep this knowledge secret from curiosity-mongers. In his own time he was known as a magician and was expelled from England for practising black magic. Thus the term " magic projectiles " signifies that the projectiles are magical in effect and are made by magical or secret formulae. Indians endowed various natural phenomena with qualities and personified them. All of such persons were known as gods—" Asuras." All the magic projectiles, depending on their qualities, are presided over by some god and are named after them. Thus " Agneyastra," " Pasupatastra," " Narayanastra," etc., refer to well-known gods in Indian mythology " Agni, Timira, Varuna, Brahma, Indra, Pasupati, Narayan, and others.

" What Mantragna Brahmins produced by harnessing the natural forces, *e.g.*, fire, air, water, is known as mantra." This definition from Yantranava chapter of Dhanurveda[12] conclusively proves that " Mantra " signified scientific processes and not mere incantations.

We have already shown the meanings of some of these individually and it is not necessary to repeat them again.

Doctrine of Prerequisites

From what might be called the doctrine of prerequisites, the development of chemical warfare in ancient India becomes a strong probability. This doctrine states that without cause, no effect is possible, and that the existence of one points to the existence of the other. Thus the development of trigonometry is not possible without its prerequisites, algebra and geometry. The invention of the gramo-

phone is not possible without the prerequisite knowledge that sound is vibratory in nature. This doctrine does not of course apply to evolutionary phases of knowledge. If we reduce chemical warfare to one or two such prerequisites we find that an advanced knowledge of chemistry is one of such prerequisites; the others being natural resources and the high development of the science of warfare. We have already described the stage of development of the science of warfare. The chemical warfare resources of India were unquestionably matchless. India knew many natural poisons, vegetable, animal, and mineral.[14] Indians used many of these in medicine in a daring way. They knew arsenic, many alkaloids and animal poisons. They were familiar with natural substances which produced sneezing, coughing, itching, blindness of the eyes, stupefaction and skin-burning or blisters on the skin. When we realize that many primitive races have used poisoned arrows, their use by a civilized people with a highly developed science of warfare seems to follow logically.

The fact that firearms and gunpowder were known in ancient India, leads still further support to our theory. The world has believed that gunpowder was a Chinese discovery. It is certain that the Chinese do not have ancient proofs of this discovery. We believe that the Indian discovery travelled to China along with the Buddhist missionaries and Europe learnt it first from China. The Indian records go much further back than Chinese evidence and furthermore China never had the prerequisites for this discovery, *i.e.*, the knowledge and existence of both sulphur and nitrate. There is no definite evidence to show that Chinese knew either.

China has no definite evidence of using either fire-weapons or chemical warfare weapons earlier than the 4th or 5th Century A.D. No authentic work of an earlier date claims or even hints at chemical warfare weapons. Encyclopedias and works of the 14th and 17th centuries are the first to claim either firearms or chemical warfare agents. This is shown in a scholarly paper by H. F. Mayers,[15] H.M.B. Consular Service in North China (Branch of Royal As. Soc. Journ. Vol. VI, page 74-104). Coupled with this fact it should be noted that from a century or two before the Christian era up to the 10th Century A.D. there was a considerable intercourse between the Chinese and the Hindus. Liang Chi Chao,[16] (Pres. Univ. Ass.) in an introduction to Tagore's visit, states that 37 Indians came to China between 67 and 789 A.D. while between 265 and 790 A.D. 187 Chinese scholars went to India to study. This shows that whatever knowledge of fire-

arms, pyrotechny and chemical warfare the Chinese might have had in the post-Christian period might have been obtained from India.

Indian niter under the name of Bengal Saltpetre was the first nitre the world ever knew even in modern times. Nature has provided India with this material as a perennial efflorescence on the soil. Similarly sulphur was known in ancient India, and the very name sulphur comes from Sanskrit "Sulvari," meaning enemy of copper. In this connection we might mention two great scholars who have testified in favour of India : Sir Thomas Holland,[17] formerly Director of the Geological Survey of India testifies as to sulphur, and R. Gustav Oppert,[18] a German scholar, in his book "Firearms and Weapons in Ancient India"—1880—testifies as to firearms and gunpowder.

The other prerequisite, the high knowledge of chemistry cannot be dealt with at length in this paper. Numerous papers and books published on the subject together with two papers presented by the author on the "Hieroglyphic Findings of the Origin of Chemistry" and "Were Priestly and Cavendish the First Discoverers of Oxygen and Hyrdogen respectively," A. C. S. meeting, Spet., 1927, give a fair idea of this.

Thus all evidences from the standpoint of conception, description, actual manufacture and from the standpoint of prerequisites, point to chemical warfare being used in India much earlier than in any other country. No one who reads the evidences given, will fail to see the analogy, or similarity, nay the identity of certain descriptions with some of our modern chemical warfare agents and their effects. The quotations are from works of unquestioned antiquity and integrity. It is hoped that a study of ancient Indian warfare in general and chemical warfare in particular will throw some light by way of suggestions to the development and upbuilding of the most efficient of modern arms, the chemical warfare.

Manufacturing Evidences

Oppert,[18] in his introduction to his translation of "Nitishastra" of Sukra, says : "The old Hindus displayed a great ingenuity in inventing injurious and irritating compounds and refined expedients for hurling them amongst the enemy during a combat." He further shows that they used explosives and heated oil, and that heated sand, melted sugar and pots filled with venomous snakes mixed with

honey, spikes, smoke balls, saws, etc., were frequently employed during combat in ancient India.

Duryodhana's soldiers, encamped in Kurukshetra had at their disposal similar chemical implements of war. (Mahabharat,[9] chapter Udyogaparva 155-7).

Kautilya's[6] " Arthashastra," translated by Shamsastry also gives unmistakable evidences of chemical warfare. This work belongs to the 4th Century B.C. and its age has been definitely established. Chanakya was the prime minister of king Chandragupta, a contemporary of Alexander. The following quotations need no comment :

" They may destroy him by means of an explosive fire or a poisonous snake."

" He should be destroyed with smoke when he (the King) is in a desert." (p. 470)

" The smoke caused by burning the above powders causes instantaneous death." (P. 495)

" The smoke caused by burning the powder of....destroys animal life as far as it is carried off by the wind." (*e*)

" The smoke caused by burning the powder....mixed with the powder of hoofs.....causes blindness." (*f*)

" When a man who has kept his eyes secure with the application of ointment and medicinal waters, burns the powder....the smoke caused thereby destroys the eyes of all animals." (p. 496 (*f*)

" The combination of the above two mixtures, poisons grass and water." (*i*)

" The smoke caused by burning the mixture causes madness." (p. 498) (*h*)

" When half a Dharana of this mixture....is thrown into a reservoir ....it vitiates the whole mass of water, whoever....drinks this water will be poisoned." (p. 499) (*g*)

" The body which is painted with paste....burns with fire." (p. 502)

" Whenever one of the pills is thrown chanting above mantra, there the whole animal life falls into deep slumber." (p. 507) (*c*)

" When the things....as well as the things of the army are washed in the tepid water prepared....it removes the bad effects of poison."

" The stinking oil....from....removes madness." (*i*)

" The application of the mixture....resuscitates....those fallen senseless....eating poison." (*j*)

" Having applied these remedies to secure the safety of himself and

his army, a King should make use of poisonous smokes and other mixtures to vitiate water against his enemy."

It will be noticed that both defensive and offensive chemical warfare agents were known. These quotations leave no doubt as to the knowledge of chemical warfare agents as disclosed in the last war.

External Evidence

Incendiaries are mentioned in Manasollas,[19] 2nd Edition, 1065, 1071, 1213, Rajatarangini[20] of 1000 A.D. This story of Alexander the Great and the poison damsel of India that was presented to him is too well-known to need mention. Aristotle's warning and advice to Alexander in this connection is also of interest as evidence. For more information on this point, see Roy, As. Soc. Journ.,[21] Bombay Branch 1928, Vol. IV, Part I, p. 213.

The descendants of the ancient Hindus, the Persians, also were adepts in chemical warfare. Their knowledge of this must be traced back to from their Hindu ancestors. According to Herodotus,[22] Book VIII, paragraph 52, the Persians discharged the first fire arrows on Greek soil against the defenders of the Acropolis.

According to "Shahanameh" [23] of Firdousi, King Kans and a number of his army were blinded by the enemy when they invaded the country of Mazindaran—(Warner Bros. Shahanameh Vol. II, p. 40—Rogers abridged translation, p. 132). The country of Mazindaran is probably India.

Quintas Curtius has a passage according to Gen. Maclagan (J. As. Soc.,[24] Bengal 1876, Vol. XIV, part I, p. 44, purporting that Alexander met with some fire-weapons in India).

We read in the extracts from the work of Xtessias on India that an oil from a big worm which had the property of igniting everything was used by the Hindus (C. Plenius[25] Secundus in History of Naturales Libre IX—17).

Since Persians as late as Ferdousi attributed the effects of rockets to sorcery or magic (Jadou) they could not have been the inventors of fireweapons or chemical warfare. The fact that the action of certain chemical weapons was not fully understood is undoubtedly responsible for their being called magical. Col. Hime[26] in "Ammunition and Gunpowder," p. 55 says :

"The fact that the first recorded use of fire-arrows on Greek soil was made by Persian archers, lends some probability to the view that Greek fire was originally borrowed from the East." The evidence

coming from the Greeks should not be neglected in connection with this and chemical warfare. Themistocles mentions the Brahmans as " fighting at a distance with lightning and thunder."

Alexander in a letter to Aristotle mentions " the terrific flahes of flames which he beheld showered on his army in Inia—(Dante's[27] *Inferno XLV*, pp. 7-31). Philostratus thus speaks of Alexander's invasion of the Punjab : " Had Alexander passed the Hyphasis, then he never would have made himself master of the fortified habitations of the Brahmin sages. Should an enemy make war upon them they drive him off by means of tempests and thunders as if sent down from heaven. The Egyptian Hercules and Bachus made a joint attack on them and by means of various military engines attempted to take their places. The sages remained unconcerned spectators until the assault was actually made. Then it was repulsed by fiery whirlwinds and thunders which being hurled from above dealt destruction on the enemies."

(*a*) Fire weapon or flame weapon.
(*b*) Smoke screen.
(*c*) Hypnotic gas.
(*d*) Counter Flame gas.
(*e*) Leathal gas *e.g.*, HCN ; $CNCl_2$; $COCl_2$.
(*f*) Tear gas.
(*g*) Contaminant gas.
(*h*) Producing madness.
(*i*) Counter gas to remove effects of other gases

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EVOLUTIONISM AND ANTI-EVOLUTIONISM IN AMERICAN ETHNOLOGY

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II

EVOLUTIONARY STAGES, PROGRESS AND THE EVALUATION OF CULTURES

WE turn now to a critical examination of another position taken by the Boasian opponents of evolutionism, namely, the question of stages of development, progress, and the evaluation of cultures. They reason as follows: since the process of culture change is non-evolutionary in character there can therefore be no "stages" of development; the concept of progress can only be subjective and is therefore unfit for use in a scientific interpretation of cultures; and, consequently, it is unjustifiable to say that one culture is higher, more advanced, or better, than another.

Boas opposed the concept of stages of cultural development for many years.[1] Goldenweiser did likewise in his numerous critiques of evolutionism. Sapir declared that "the doctrine of social stages could not be made to fit the facts laboriously gathered by anthropological research."[2] Lowie "formally abjures" a "belief in laws regulating the independent reproduction of the same series of stages" among different peoples.[3] Herskovits repudiated the concept of stages in his book, *The Economic Life of Primitive Peoples*. Challenged on this point by a reviewer, Herskovits said, "I am glad....to reaffirm my belief that the use....of such a concept as 'stages of development' implies a belief in a type of social evolution that cannot ....be established as valid."[4] And only recently, Scudder Mekeel observes that "any theory that embraces a set series of evolutionary stages for culture has been fairly well disposed of."[5] This attack upon the concept of stages by Boas and others has prompted an observer from the ranks of sociology, Dorothy Gary, to observe:[6]

[1] *The Mind of Primitive Man* (1911), pp. 192-193; article "Anthropology" in Encyclopedia of the Social Sciences, Vol. 2, p. 109.
[2] "Anthropology and Sociology," p. 99; see, also, his review of Lowie's *Primitive Society* in the Dial.
[3] *Primitive Society*, pp. 432, 435.
[4] "Economics and Anthropology: a Rejoinder," p. 273.
[5] Review of *Lamps of Anthropology*, by John Murphy, p. 747.
[6] "The Developing Study of Culture," p. 208.

" For some years now the favorite sport among one section of American students of culture has been that of knocking the various so-called ' stage ' theories of social evolution into a cocked hat—at least to their own satisfaction."

She goes on to remark, however, that " this is good dramatics and may be good journalism, but it certainly is not good science."

With regard to progress, the Boasian view has been that one can justifiably speak of progress in mechanical inventions—such as axes, looms, ploughs—and to some extent in scientific knowledge, but that in social organization, ethics, philosophy, religion, or with respect to cultures as wholes, the concept of progress is, and has to be, subjective and therefore unscientific.[1]

If we cannot speak of progress in culture change, how then can we evaluate cultures ? " You can't," is the reply of the anti-evolutionists ; " apart from such measurable changes as improvements in axes and looms, or knowledge and means to combat disease, you cannot evaluate cultures."

As an example of subjectivity of judgment on the part of the evolutionists, the Boasians charge them with placing our own culture at " the summit of the ascent.....Whatever seemed most different from our customs was therefore reckoned as earliest, and other phenomena disposed wherever they would best contribute to the straight evenness of the climb upward."[2] Ruth Benedict says the same thing and in virtually the same words.[3] Boas,[4] Lowie[5], Herskovits[6] and Swanton[7] subscribe to the same view.

As a specific example of this ethnocentric bias, the Boasians point to the question of primordial promiscuity in human society. " It was argued," says Kroeber, " that since we hold to definitely monogamous marriage, the beginnings of human sexual union probably lay in indiscriminate promiscuity."[8] Lowie, Herskovits, and Swanton advance this argument also.[9]

1 See Boas, *Anthropology and Modern Life*, pp. 213-14, 219-20 ; " Anthropology," p. 103 ; " Methods of Research," pp. 676-78 ; see, Lowie, *Primitive Society*, pp. 438-39 ; and *An Introduction to Cultural Anthropology*, p. 373 ; Goldenweiesr, *Anthropology*, p. 524, and many of his earlier works in which the theory of cultural evolution is criticized ; Herskovits, *The Economic Life of Primitive Peoples*, pp. 7-8.

2 Kroeber, *Anthropology*, p. 8.

3 " The Science of Custom," p. 810.

4 " The History of Anthropology," p. 517 : and " Methods of Research," p. 676.

5 *Primitive Society*, pp. 56, 205.

6 " Man, the Speaking Animal," pp. 68-69.

7 " Some Anthropological Misconceptions," p. 461.

8 *Anthropology*, p. 8.

9 Lowie, *Primitive Society*, p. 56 ; Herskovits, " Man, the Speaking Animal," p. 69 ; Swanton, *op. cit.*, p. 462.

But this theory is hardly in accord with the facts. Tylor expressly repudiates the promiscuous horde theory :[1]

" Mankind can never have lived as a mere struggling crowd, each for himself. Society is always made up of families or households bound together by kindly ties, controlled by rules of marriage.... "

Herbert Spencer says, " I do not think the evidence warrants us in concluding that promiscuity ever existed in an unqualified form."[2]

Thus, of the major social evolutionists, only Morgan espoused a theory of primordial promiscuity. But he did it, not because he was a " mid-Victorian thinker (to whom) it was a foregone conclusion requiring only statement not proof that monogamy is the highest form of marriage," as Lowie has argued,[3] but as a means of explaining systems of kinship terminology. It would be well to set the record straight on this point.

And as for placing our culture at the top and grading others according to their likenesses to and differences from ours, a procedure which Kroeber calls " astonishingly naive," we would like to ask, What is wrong with this *as a method* ? Do we not use it frequently in science ? Do we not arrange fossil forms of horses, primates, etc., in series according to their similarity to and differences from living forms ? Could we not arrange a series of automobiles, looms, ploughs, etc., in an evolutionary series on the basis of morphological comparison ? Do not philologists reconstruct linguistic history by this method ? Would anyone care to maintain that kingship could precede chieftainship, money precede barter, paper money come before other mediums of exchange ?

To be sure, the evolutionists would have to establish our own culture as the highest stage of a general cultural development in order to place it at the top. But the *method* in question is valid and useful regardless of which culture is placed at the top. As we shall show presently, the superiority of Western civilization can be demonstrated by objective measurements. It goes without saying, too, that this method must be used critically ; we must first be sure that we are dealing with a genetic series. We could not, for example, arrange Bantu, Chinese, Eskimoan and Iroquoian languages in an evolutionary series on the basis of their likenesses to, or differences

1 *Anthropology*, p. 402.
2 *Principles of Sociology*, Vol. I, p. 662.
3 *Primitive Society*, p. 56.

from, English. One can commit stupid blunders with statistics; but this does not invalidate statistics as a method or tool.

Over and over again, the Boasians have argued that cultures cannot be evaluated.[1] Their position is admirably summed up in the two statements which follow.

In a recent article, " On the Values in Culture," Herskovits quotes a long passage from Lowie's *Primitive Society* which, he says, implies " the impossibility of evaluating cultures at all," after which he declares :

The " recognition of the impossibility of evaluating cultures is today firmly established.....(This) represents a great advance toward clarity of thought.... "

Margaret Mead tells her fellow anthropologists that " our contribution has been a recognition of the *co-equal value of human cultures* seen as wholes.....We have *stood out against any grading of cultures* in hierarchical systems which would place our own culture at the top and place the other cultures of the world in a descending scale according to the extent that they differ from ours.... We have stood out for a sort of *democracy of cultures*, a concept which would naturally take its place beside the other great democratic beliefs,"[2] (emphasis mine).

The anti-evolutionists thus place themselves in an amazing if not incredible position. They argue in effect that one cannot sensibly or justifiably assert that Maya culture is higher or better than that of the Arunta; that Western civilization of today is no higher than that of medieval England, or of the Old Stone Age, for that matter. Such propositions fly squarely in the face of science as well as of common sense. They may lend support to a " great democratic belief," but they contribute little " toward clarity of thought."

Cultures *can* be evaluated and by objective standards. Man is an animal, and like all other living beings, he is engaged in a struggle for existence and survival. Culture is a *means* of making life secure and enduring for the human species. One means may be better than another. Cultures are not all alike as means of making life secure and enduring. On the contrary, they vary widely. Some are relatively ineffective as means of subsistence, protection against

[1] Boas, "The History of Anthropology," pp. 515, 517; Boas, *The Mind of Primitive Man* (2nd ed.), p. 225; Goldenweiser, *Early Civilization*, pp. 125-26; Herskovits, " Man, the Speaking Animal," p. 68; Benedict, *Patterns of Culture*, p. 1; Lowie, *Primitive Society*, p. 439; and *Introduction to Cultural Anthropology*, pp. 373-74.

[2] "The Role of Small South Sea Cultures in the Post War World," p. 193.

the elements, defense against enemies, control over disease, etc.; others are more effective. We can measure and grade cultures in terms of these degrees of effectiveness: the amount of food and other human-need-serving goods produced per unit of human labor, the efficiency of shelters against the elements, the effectiveness of weapons of offense and defense, the control over disease as indicated by death rates, life expectancy tables, etc., control over the forces of nature in general, efficiency of means of communication and transportation, etc. All of these aspects of culture change can be measured by objective standards and the measurements expressed, in most instances, in mathematical terms. We can, furthermore, reduce all these various measurements and indexes to one common denominator, namely, the extent to which man can, by means of culture, exercise control over the forces of nature. This can be expressed as the amount of energy harnessed and put to work per capita per year. Here we have a single, uniform, objective standard by which all cultures may be compared and evaluated. This is a sound, sensible, scientific and illuminating conception of culture differences and of culture change.

To the Boasian contention that social systems, religions, and ethical philosophies cannot be evaluated, we reply that these too are cultural means employed by the animal man in his efforts to make life secure, and hence can be measured in terms of their achievements. A social system is the social organization of the use of technological instruments employed in subsistence, defense and offense, combatting disease, etc. Philosophies and religions also are effective or ineffective means of providing food, defense, health, etc. Ethical systems, forms of art, ceremonies, etc., are means of promoting social solidarity, regulating social life, nourishing *esprit de corps*. Social systems, ethical philosophies, ceremonies, etc., are not to be compared directly with each other—the ethical system of culture *A* with the ethical system of culture *B*—and apart from their respective culture contexts. One might as well ask which is better, fur, feathers, scales, or a shell? Each must be considered only as an aspect of an organic whole. It is senseless, therefore, to attempt to evaluate social systems and ethical philosophies apart from their respective cultural contexts. But as aspects of organic cultural wholes, they can be evaluated as realistically as axes, ploughs, and looms: as means of making life secure and enduring for the human species.

We turn now to a very interesting point in our examination of

the anti-evolutionist attitude of the Boas school : despite their insistence that " evolutionary stages " and " progress " are unscientific concepts and that cultures cannot be evaluated, *almost all of them use the concepts " stages " and " progress," and almost all grade cultures with a free hand* !

Boas used the concept of stages for decades : " stages of culture " (1910),[1] " when tribal society advances to such an economic stage " (1917)[2] " all cultural levels " (1919),[3] " high stage of political organization " (1938).[4] Goldenweiser : " high and low stages of social development."[5] Lowie : " stages of.....advancement,"[6] " stages of development."[7]

With regard to " progress " and " higher " and " lower " cultures we note the following. Boas : " giant's stride forward in the development of culture,"[8] " progress has been slow, but almost steady, in the direction of expanding the political units,"[9] " more advanced types of civilization,"[10] " the higher civilizations,"[11] " in the poorest cultures,"[12] " the civilization of the Arabs....had reached a stage of development which was undoubtedly superior."[13] Lowie : " lowest known cultures,"[14] " ruder and higher hunters,"[15] " simpler cultures,"[16] " centers of higher civilization."[17] Golden-weiser : " higher cultures,"[18] " the crude culture of the Australians ....a higher civilization,"[19] " higher Indian civilizations."[20] Sapir : " higher and lower levels,"[21] contrasts " the most primitive tribes " with those " culturally furthest advanced,"[22] " obviously less primitive " and " a high level of culture."[23] Herskovits : " the crudest

1 "Ethnological Problems in Canada," p. 341.
2 "The Primitive Mind and the Present Hour," p. 128.
3 "The International State," p. 142.
4 *The Mind of Primitive Man* (2nd ed.), p. 8.
5 Review of *Les Formes Elementaires de la Vie Religieuse*, by Emile Durkhein, p. 723.
6 *Primitive Society*, p. 1.
7 *Introduction to Cultural Anthropology* (2nd ed.), p. 265.
8 "The Negro's Past," p. 63.
9 See *Race and Democratic Society*, p. 111.
10 " Anthropology," in Lectures on Science, Philosophy and Art, p. 25.
11 "The History of the American Race," p. 329.
12 *The Mind of Primitive Man* (2nd ed.), p. 203.
13 *Ibid.*, p. 13.
14 *Primitive Society*, p. 182 ; see also, p. 68.
15 *Are We Civilized ?*, p. 149.
16 "Social Organization," p. 146.
17 *Introduction to Cultural Anthropology* (2nd ed.), p. 481.
18 "The Social Organization of the Indians of North America," p. 436.
19 *Early Civilization*, p. 315.
20 *Anthropology*, p. 427.
21 Review of Lowie's *Primitive Society*, in the Freeman, Vol. I, p. 378, 1920.
22 Review of Lowie's *Primitive Society*, in the Nation, Vol. III, p. 47, 1920.
23 "Anthropology and Sociology," pp. 100, 109.

civilizations,"[1] the "great political groupings of Africa.....the humbler, less complex societies,"[2] "the clash of cultures of unequal strength."[3] Mead grades cultures according to three levels of integration.[4]

Dozens of other references could of course be cited; we have merely selected some at random to indicate the use of these concepts by the Boas school.

History and Science—but not Evolution

At another philosophical point, the Boasians have attacked the theory of evolution by making a classification of types of interpretation of culture which had no room for evolutionism. According to this view, there are only two kinds of interpretation, the temporal, which they call "history," and the non-temporal, which they call "science." The evolutionary aspect of culture change is either confused with history, as when Boas cites "the idea that the phenomena of the present have developed from previous forms with which they are genetically connected" as an example of the "historical point of view,"[5] or else it is ignored. Boas sets the stage for this classification of "historical" and "scientific" interpretations of culture in one of his earliest theoretical essays, "The Study of Geography" (1887). It is stated explicitly in "The History of Anthropology" (1904), and is implicit or explicit in almost all of his later writings on theory. Kroeber, Lowie, and Radin among Boas' prominent students subscribe to this distinction also. We find it entrenched in the Department of Anthropology at the University of Chicago where the British anthropologist, A. R. Radcliffe-Brown, taught for several years (1931-1937). The distinction between historical and scientific interpretations of culture is an important feature of this scholar's anthropological philosophy.[6] Professor Robert Redfield[7] holds to this view as do Sol Tax[8] and other disciples of Radcliffe-Brown. A remarkable feature of *A Syllabus of Anthropology*, published by the Department of Anthropology, University of Chicago,[9] is its

1 "Man, the Speaking Animal," p. 69.
2 *The Economic Life of Primitive Peoples*, p. 442.
3 "Applied Anthropology and the American Anthropologists," p. 222.
4 *Co-operation and Competition among Primitive Peoples*, p. 467.
5 "The History of Anthropology," p. 515.
6 See his "Some Problems of Bantu Sociology;" "The Methods of Ethnology and Social Anthropology," and "The Present Position of Anthropological Studies."
7 *Tepoztlan, a Mexican Village*, and his introduction to *The Social Organization of North American Tribes*, F. Eggan, ed.
8 "Some Problems of Social Organization."
9 Mimeograhed, April, 1937 (distributed by University of Chicago Bookstore).

division of the entire field—physical as well as cultural anthropology —into "historical" and "scientific" studies. Thus, we do not find evolutionist interpretations even in biology; human evolution has vanished along with the evolution of culture!

This classification into "historical" and "scientific" interpretations is, of course, misleading and unsound. The evolutionist interpretation is just as realistic and just as valid as an historical or a non-temporal "scientific" one. The racial history of man is certainly not the same kind of an account as the evolution of man; the history of writing or coinage is not at all the same kind of a story as the evolution of writing or of money. History is not the same thing as evolution.[1] Historical interpretations deal with a series of events each of which is unique in time and place. Evolutionist interpretations deal with a temporal sequence of forms in which events are taken as classes rather than unique occurrences. History says that one event precedes or succeeds another; evolution says that one form grows out of another. A history of man or horses would tell us that such and such genera, species, and varieties lived here or there at such and such time, migrated to some other region, had various experiences at certain times and places. An evolutionist account of man or horse would tell us that the series of forms that we know are to be arranged in a certain sequence. This sequence is, of course, a temporal one, but no reference to specific time or place need be made.

Nor is evolution merely "summarized history" as Kroeber has suggested.[2] In the first place we may have historical accounts without any ingredient of evolutionism, such as the history of the bow and arrow or the use of tobacco. Likewise, we may have evolutionist accounts—of money, *e.g.*—without a history of anything. Secondly, and more significantly, the historic and the evolutionist processes are quite different from each other in their nature and behavior. The evolutionist process is an orderly one; it can be described by scientific laws; it is predictable. The historic process is one of chance; there are no laws of history; predictions can be made only within narrow limits, and the unexpected is of frequent occurrence. Thus, the evolution of the sun, of radio-active elements, of man,

[1] See my essay, "History, Evolutionism, and Functionalism: Three Types of Interpretation of Culture," for a more exhaustive discussion of this point. See, also, my "Science is *Sciencing*."

[2] "History and Evolution," p. 14. This essay is a discussion of my "History, Evolutionism, and Functionalism."

horses, writing, money, mathematics, social systems, etc., are orderly processes. We can formulate *laws* of evolution.[1] We can predict the course of evolutionary development. History is a series of chance occurrences : a little Corsican goes to a military academy, an assassin's bullet hits or misses and subsequent history goes one way or another as a consequence, a switchman falls asleep and wrecks a train, killing an emperor—or perhaps the emperor changed his mind at the last minute and did not take the train ! No one can foretell when an archduke will be shot, or whose archduke it will be, or what will happen when he *is* struck down. The evolutionist and historic processes are thus seen to differ in their very nature.[2]

Evolution : Unilinear and Multilinear

One of the favorite tactics of the opponents of Morgan, Spencer, Tylor and others has been to brand their evolutionist theory and interpretations " unilinear " and then to argue that *unilinear* evolution is unreal. Of course, when one came to the end of their arguments there was as a rule little if anything left of evolutionism, because what evolution was *not* unilinear ? In short, evolutionism was unilinear and unilinear was unreal ; therefore, the theory of evolution was invalid.

There has been confusion and misrepresentation here as well as elsewhere in the many-sided attack on evolutionism. Boas confuses the evolution of culture with the culture history of peoples : " the theory of a unilinear cultural development....means that *different groups of mankind* started at a very early time from a general condition of lack of culture ; and....developed everywhere approximately along the same lines.... "[3] (emphasis mine). It was easy to show that " different groups of mankind " had had quite different culture histories ; the African tribes skipped the bronze age as the Boasians never tired of pointing out. Therefore, they argued, the theory of evolution was invalid.

We have already seen that the evolution of culture and the culture history of peoples are two different and distinct things, and that, therefore, failure of a " group of mankind " to pass through a certain set of stages of cultural development in no way invalidates any formula applicable to those stages.

[1] See my " Energy and the Evolution of Culture " for examples of such laws.
[2] These ' processes " are of course concepts by means of which we analyze and interpret reality. To the extent that these concepts correspond to observed phenomena in the external world we can speak of processes in culture, in living beings and in the inaminate world.
[3] *The Mind of Primitive Man* (2nd ed.), p. 178.

Professor Ralph Linton lists " a belief in the unilinear evolution of all....cultures, that is, that all cultures had passed or were passing through exactly the same stages in their upward climb," as one of the errors of anthropology.[1] He, too, interprets it to mean that " each culture (*i.e.*, each *people*) had to pass through a fixed sequence of stages.

As already indicated, when the Boasians got through refuting *unilinear* evolution there was not much left of evolutionist theory. Others, however, have opposed *unilinear* evolution, but wish to retain the possibility of a multilinear developmental process. Thus Professor A. M. Tozzer does not wish " to deny that there are important changes of culture, evolutions of culture if you will; but not a single typical line of advance."[2] The late Charles A. Ellwood also thought that the theory of " just one typical line of....development " was a mistake, but felt that a number of lines was admissible.[3] Linton, as we have seen, is opposed to "unilinear evolution," but he says we can "differentiate a number of distinct streams of evolving culture....."[4]

In appraising the position of the anti-evolutionists on this matter we will make two points: 1. The theories of the so-called Classical Evolutionists were not *merely* unilinear in character; they were multilinear as well. 2. Unilinear and multilinear both are valid, and equally valid, concepts applicable to the cultural evolutionary process; the one interprets the process as a one; the other as a many.

Boas asserts that the conception of " a single line of development of culture " was " pre-eminent in anthropological work of the end of the last century."[5] This view is commonly held by members of the Boas school, and has been adopted also by others, in sociology as well as in anthropology. It is not, however, in accord with the facts.

Herbert Spencer, the foremost philosopher of evolution, says something quite different. " Like other kinds of progress," he says, " *social progress is not linear but divergent and re-divergent.* Each differentiated product gives origin to a new set of differentiated products.....We may infer *a priori* that in conformity with the law of evolution, there will develop many unlike conceptions out of con-

1 " Error in Anthropology," p. 314.
2 *Social Origins and Social Continuities*, p. 16. It is significant that Professor Tozzer called his book *Social Origins and....Continuities* instead of *The Origin and Evolution of Culture.*
3 " Culture and Human Society," p. 13.
4 " The Present Status of Anthropology," p. 244.
5 " The Aims of Anthropological Research," p. 610.

ceptions originally alike "[1] (emphasis mine). One cannot help but wonder if the anti-evolutionists had ever read Spencer.

Boas, in opposing "unilinear evolution" says that "cultures differ like so many species, perhaps genera, of animals."[2] But we find Tylor, the evolutionist, classifying culture traits into groups which the ethnographer may study as the naturalist studies species of plants and animals.[3] These species, he says, "tend to run widely into varieties.....In carrying on the great task of rational ethnography....it is desirable to work out....a scheme of evolution of this culture *along its many lines*"[4] (emphasis mine). This can hardly be called a unilinear conception of the evolutionist process. Spencer, too, in duscussing the diffusion of tribes and cultures over the earth, says that "the multiplying groups *have tended to acquire differences*, now major, now minor : there have arisen genera and species"[5] (emphasis mine).

Morgan emphasizes the unilinear aspects of cultural development rather than the multilinear, but he, too, makes allowance for "deviations from uniformity in particular instances produced by special causes."[6]

But the question is not whether the evolutionary process is to be interpreted as unilinear *or* multilinear. Both interpretations are perfectly valid and equally valid. Culture may be regarded as a one or as a many.[7] Culture is a class of phenomena. We may treat the class as a unit, or in terms of its subdivisions or particular component members. We can present the evolution of culture as a whole,[8] or we can deal with the evolutions of cultures, just as we can speak of the evolution of the horse or the evolutions of genera and species of horses.

The proper question to ask, with regard to unilinear and multilinear, is what problems of cultural interpretation are best solved by the one concept, which by the other, and which by either? Obviously, evolutionist interpretations of the culture of mankind *as a*

[1] *Principles of Sociology*, Introductory chapter of Part VIII, Industrial Institutions, and Part I, Ch. 20.
[2] "The Aims of Anthropological Research," pp. 610-611.
[3] *Primitive Culture*, Vol. I, p. 8. [4] *Ibid.*, pp. 14, 20-21.
[5] *op. cit.*, Introductory chapter of Pt. VIII.
[6] *Ancient Society*, p. 18.
[7] It is gratifying to discover a distinguished American sociologist who is not deceived or confused by the epithet "unilinear." R. M. MacIver sees clearly that the evolutionary process may be regarded as both unilinear and multilinear (see his *Society*, pp. 485-86).
[8] Lowie has said that "there is only one cultural reality that is not artificial, to wit: the culture of all humanity at all periods and in all places," "Cultural Anthropology: a Science," p. 305.

whole must be unilinear. But the culture of mankind considered as many cultures—as genera, species, and varieties, to use Tylor's phrase—has to be interpreted multilinearly. The evolution of writing, metallurgy, society, architecture, commerce, etc., can be presented either from the unilinear or the multilinear standpoint. Morgan erred in believing that " the evolution of the family " could be presented as a unilinear development.[1] Morgan and other evolutionists erred in placing matrilineal and patrilineal descent in an invariable sequence. But this does not by any means invalidate unilinear interpretations; it simply means that certain events do not lend themselves to unilinear interpretation. The fact that triangles are neither moral nor sweet does not render these concepts invalid in other contexts.

With further regard to unilinear evolution, if we assume as the great majority of Americanists do, that cultural development in the Western hemisphere has taken place almost completely independently of the Eastern hemisphere, then the data offer very impressive confirmation of Morgan's claim that the " career (of mankind) has been essentially one, running in different but uniform channels upon all continents, and very similarly in all tribes and nations of mankind down to the same status of advancement." In both hemispheres we find remarkable similarities in many phases of cultural development: the textile and ceramic arts, metallurgy, architecture, clans, tribes, confederacies, feudal development, writing, mathematics, astronomy, etc. The unilinear character of cultural development taken as a whole is indeed impressive.

Thus, to sum up the question of unilinear evolution: 1. The classical evolutionists have been grossly misrepresented when they are presented as unilinear evolutionists only; they were multilinear evolutionists as well. 2. Unilinear interpretations of cultural development are as relevant and as valid as multilinear interpretations; they are merely two different but complementary aspects of one and the same process. 3. Some of the evolutionists erred in interpreting certain events, such as forms of the family, as constituting a unilinear sequence. But this in no way invalidates unilinear interpretations as such. 4. A comparison of the cultural development of the Eastern and Western hemispheres prior to 1492 A.D. provides impressive confirmation of unilinear interpretations.

[1] His error, however, consisted not in choosing a unilinear interpretation instead of a multilinear, but in thinking of *the family* as an evolving organism, which it is not.

VILLAGES AS UNITS IN A PROGRAMME OF RECONSTRUCTION

AMALESH GHOSE, M.A., B.Sc.

THE goal of the Indian National Congress was the winning of independence. This has been achieved through the struggles of the people under the directions of the Congress. What next? This question is asked by many. We have now to maintain that independence and to consolidate the forces latent in the nation and have to guide the people along proper lines so that the traditions of our glorious past might be upheld and so that this country might occupy a place of honour in the world that is shaping itself anew.

Would industrialisation help her in attaining that position? Yes, to a great extent. She has got to produce many of her requirements including food in order that she might become self-sufficient. She has to produce them in much greater quantity than at present. It is necessary that the country should be industrialised. But the industries, in the sense we understand them at present, would never be able to absorb the entire population of the land and give each and every individual a useful employment. Produce more cloth, more food, more machinery and more conceivable everything. But even then whole population is unlikely to be absorbed. How to engage the surplus in profitable occupation? Here come in the villages and the villagers, the tillers of the soil, the agricultural labourers, the weavers, the carpenters, the blacksmiths, the potters, the milkmen, the fishermen and a host of others who make up the back-bone in village economy.

Undoubtedly the villagers have been neglected. The " back to the village " slogan was made a hoax and not given its true significance. Efforts were made, herculean efforts one should say, by the pioneers in this field and by patriots to make a beginning in the process of uplifting the villages. But the existing set-up, both political and economic, was not conducive to the propagation and growth of such a thought, much less action. Attempts were made in almost every direction in village life to change the course of events but without any tangible results. No doubt the best was made out of the existing circumstances in the country. But the War Famine, Controls, Food, Independence, Evacuation and Refugee problems came in quick

succession and showed the tendency towards urbanisation and thereby unfolded the weak points in our rural life in glaring contrast. It demonstrated that there existed an uncoordinated social structure.

The modern tendencies of our society, that of allowing our ideas to filtrate into the countryside from the big centres of trade, industries and culture, would predominate for a considerable period to come. We cannot avoid it. That has come to stay. But the process has been slow and would proceed along in a snail's pace if that is allowed to have its own course. It would mean loss of valuable time which we can hardly afford to waste. We cannot transform the villages into paradise overnight. We have to wait for that. But the beginning has to be made in an organised manner in the right spirit.

Whatever plans are drawn up the blue prints of the sketch will have to be such as to keep in the forefront the organisation and the improvement of the villages. Instead of reaching the villages in the traditional way, we have now to think in terms of them as units of economic computation for advancement and work upwards to the towns.

With independence there should dawn a growing responsibility on every citizen. We have to realise this fact and our leaders ought to see beyond their nose and organise the forces towards their concentration upwards. Villages are usually inaccessible, specially during the rains. Good roads have to be built. Good roads in the villages would certainly foster the growth of a more healthy atmosphere there. With them should come better and more efficient drainage system. Our villages have grown up without any regard for their future requirements or hygienic considerations. They have either grown or decayed without a plan and they would continue to do so unless something is done to regularise the conditions of life there. No body is there in the villages to carry out municipal functions. The Union Boards have, of course, been in existence but they have neither the will nor the means to fill the void. The inevitable result is that bad drainage and unhygienic conditions rule supreme and result in bad health. Epidemics of cholera, small-pox, and malaria break out without warning and can hardly be combated effectively. In fact, nothing can be expected in this direction until proper public health authorities are set up in the villages. In this connection one may refer to the unhealthy spots inside the villages which must be cleared and to the tanks which must be properly looked after.

Must we have again our old and traditional pathsala and the

village school-master? There should certainly be a school in a village having a sufficient number of boys to attend it. The villagers are poor and are unable to pay for the schooling and the traditional mode of payment is either unacceptable or uneconomic. The authorities will have to consider this matter. The demands of modern education are many and varied. The cinema, the radio, modern text-books, physical culture are all part and parcel of modern school system. There is no reason why our villages should lack on these benefits. The physical culture centres might cater for one village alone or in places for a group of villages. The educational units of the cinema might go round and become travelling units for a certain locality. Adults in the villages again who have so far been allowed to remain illiterates will have to be brought under a plan of instruction. They have to be taught right from the beginning what they should know. Literate adults should similarly have opportunity of brushing up their rusted knowledge, be encouraged. Libraries in this connection will become a necessity.

The cottage industries of the villages cannot foster without encouragement and practical sympathy. Large scale factory industries have to be maintained and developed no doubt. But there is enough room for the cottage industries and they should be properly developed. Weaving cotton or silk fabrics is the major cottage industry of the country. But the blacksmith, the carpenter, the potter and the like have each their respective place in the rural economy as a whole. The milk-man, the poultryman, the husker of paddy, the sweetmeat vendor and host of others have their due places in that. There is a necessity in each of these spheres for improved education and training. There should be provision for that in the respective technical schools in a circle of villages, with provision for demonstrations and exhibitions at stated intervals. New ideas in these fields should be communicated in the language which the local people would understand.

The agricultural time-table of the country is old fashioned and dependent in most parts on rain. Increased facilities of canal irrigation in certain localities have fostered increased production and greater energy of the agriculturists. The parts of the land dependent entirely on rain or liable to suffer from the effects of periodical inundation or drought have suffered most and remained undeveloped. The people have become prone to laziness. The proper incentive for a sure and profitable return of their labour and efforts is wanting.

Given this in a planned system of agriculture, there would be little culturable land uncultivated fallow lands would be brought under the plough. In this connection it should be emphasised that knowledge of modern improvements in results of agricultural and veterinary researches shall have to be brought home to the people concerned through the medium of their local dialects. In this field as in other spheres, demonstrations and exhibitions have a very high value.

The average holdings of agriculturists are very small and the land is unevenly distributed. We are inclined to think this to be a great stumbling block in the way of progress. The peasantry is poor, ignorant and conservative but has a wonderful power of adaptability. That is the the towering quality in its make-up and this gives them at all times a sustaining power. If the peasants are properly initiated into the secrets of cooperation they will not fail to benefit by them. They are always good neighbours and will easily take to a simple aid intelligible form of cooperation. Many may be pessimistic about the future of cooperation in Bengal. But I am not. People, however, should be given necessary education in this regard before success becomes certain. It is time for the gov;rnment to make efforts.

Round the World

General Election in Eire—

Recently as a result of some by-elections going against the Government of Mr. de Valera, he dissolved the legislature and appealed to the country. The general election so brought about was held on the 4th February last. Total population of Eire is about three million of which about one million seven hundred thousand are voters. Most of them exercised their right to vote but the results are not as expected by any of the parties. It should be borne in mind that the system of voting in Eire is based on the principle of proportional representation which tends to divide public life into groups and does not ensure any party securing a definite majority in the legislature. This system was responsible to a large extent for the weak and unstable cabinets of Germany during the crucial years between the signing of the Treaty of Versailles and the rise of Hitler to power. It was because of this potentiality for instability that the British Parliament has not yet accepted the principle of proportional representation, although the existing system is obviously inequitable. In Eire also the system of proportional representation is bearing fruits, not very sweet to the taste. But there is no knowing how this incubus may be removed without giving offence to the smaller parties and incurring their hostility.

Mr. de Valera has been in power since he defeated his opponent, Mr. Cosgrave, in 1932. Sixteen years are too long a period for any leader to remain as the head of a government without giving offence to a large section of the people and arousing in their mind a desire for a change. It is true that Mr. de Valera's Government has solid achievements to his credit. One of the most important of them was to keep the country out of the war and the devastations which it might have entailed. But it should be remembered that although a professed republican he had to make compromise on the issue of British connection. Eire is today both within and without the British Commonwealth. It is a Dominion for external purposes without being one for internal affairs. Irish representatives abroad take their credentials from the King and foreign representatives in Dublin are accredited to the King. Otherwise Eire is a republic. Until recently this was the most extremist course which any party in Eire would dare to take. But of late a new party appeared on the horizon, led by Sean MacBride who out-Herods Herod. He wants to go the whole hog, and do away with the last vestiges of British connection. His ambition is to make Eire a pure Republic. This party made some headway in the country and won some by-elections which precipitated the general election.

Mr. MacBride set up more than ninety candidates but has so far succeeded in getting returned only ten. He, however, thinks that he should not feel disappointed. During the short time he had at his disposal he could not perfect his organisation which he promises to do for the next election when it is held. Meanwhile Mr. de Valera is also without a majority of his own in the legislature. He declared almost unequivocally that unless his party attained a clear majority he would not form the government. In the last Dail, this party held 76 out of 138 seats. But he has secured in the new house only sixty-nine. There are, of course, some Independents and a few Labourites who may join his Party and if that happens it may not be difficult for him to head the new Ministry. That will also be practically, though not theoretically, a coalition which de Valera hates and rightly. Under the system of proportional representation coalition is, however, inevitable. If Mr. de Valera does not lead it, the leader of another party will have to form it. Chances are that Mr. de Valera will head the new Government, waiting, however, for an opportunity to dissolve the Dail and seek a fresh mandate from the people. Since the above was written a government has been formed without de Valera.

British House of Commons and Its Electorate—

It is reported that the British Government is shortly introducing a Bill for better representation of the people in the House of Commons. In 1944 a conference met to this end under the chairmanship of the Speaker and made certain recommendations, one of the main being that efforts should be made to secure greater uniformity in parliamentary constituencies. None of them should be too large and unwieldy. In order that a candidate might effectively canvass the voters at the time of election and remain in touch with them after election, these voters should be less than sixty thousand in number. The Government accepted the main recommendation for carrying out which a commission to delimit boundaries of constituencies was set up. The work of this body being completed, the Government has framed a bill which provides for the adoption of this recommendation as worked out in details by the boundary commission. It also accommodates other ideas of the Government regarding parliamentary representation, some of which are, however, inconsistent with the recommendations of the Speaker's Conference.

If the Bill is passed as it is, the membership of the House of Commons will be reduced to 608, the University Constituencies will be abolished and the City of London will as such lose its two representatives. By reducing the number by thirty-two members the new Act (if passed) will make the House more businesslike and the constituencies more compact and manageable. The American people have fixed the maximum membership of the House of Representatives at 435, as otherwise, it was thought, it would

lose its efficiency as a deliberative body. The British Government also might have arranged to reduce the membership of the House of Commons still further. Such reduction would have, however, increased the size of the constituencies. Besides, it is taken for granted in Britain that a large batch of members will never take an active part in the deliberations of the House but will be interested in this chamber only as a club.

The principle of representation in Britain has been so far mainly territorial. The principle of the representation of interests was not recognised except in regard to the Universities and indirectly in regard to trade and commerce in the City of London. One square mile of area which comprises the City of London has ceased for long to be a residential district and its representation in the House by two members is based on the votes of the business premises and not on those of residential voters. But such representation ensuring the voice of big business and high finance being heard at Westminster is inconsistent with the principle of one man one vote. A man owning a business premise in the City of London and residing elsewhere has now two votes. The Bill does away with this incongruity by abolishing the special representation of the City. Of course loud protests have been made in interested quarters against this provision of the Bill on the ostensible ground that it will be doing violence to history. The City of London was in medieval days the stronghold of freedom. Its fight against tyranny should still be recognised by the maintenance of its special representation. But the ground cited, it may be repeated, is only ostensible. The real purpose of opposing the provision of the Bill in this regard is to maintain the status quo in the interests of high finance and big business.

The Universities in Great Britain and Northern Ireland have altogether twelve seats and the Bill provides for the abolition of all of them. This will be doing away with another historical tradition. But the fact stands out that University graduates have proved more conservative than the average people in the country. So far no labourite has succeeded in getting returned through any of these constituencies. Secondly, if no other special interest is recognised for representation as such in the House of Commons, the University interest need not be singled out for favour. It is no doubt true that the University constituencies have returned from time to time to the House men who are outstanding in calibre and comparatively detached in outlook. But while such men are needed in the House, it should not be thought that they will fail to get returned from ordinary constituencies.

The Bill is not reported to contain any clause recognising the principle of proportional representation. As a result of the working of the present system of voting, the political minorities are deprived of their due representation. It has been calculated that at the last general election it took thirty

thousand votes to return a Socialist candidate, forty-five thousand votes to return a Conservative and one hundred and eighty-six thousand to return a Liberal. The adoption of the proportional system will have done away with these inequalities and ensured the different parties being represented in the House according to their numerical support in the country. It should, however, be borne in mind that proportional representation will be a serious impediment to any one party securing a definite majority in the House and would consequently be an obstacle to governmental stability and efficiency.

Racial Inequality in British Dominions—

Field Marshal Smuts, the Prime Minister of South Africa, pointed out in a statement made in the Union Parliament that the Union did not recognise the principle of racial equality. The supremacy of the white race is still the watchword. Neither the African people whose country has been occupied by the Dutch and British settlers nor the Indian immigrants in that Dominion should be allowed to claim any equality of status with the white men. It is strange that not only this Nazi principle is being practised in South Africa after Nazi Germany has been crushed but what is more this principle is being trumpeted with bravado by a responsible statesman who is known to enjoy the confidence of the white man everywhere. This does not bespeak cordial relations between the whites and the non-whites of the world in the future. In fact, it only foreshadows some kind of a showdown between the two elements of the world population.

That racial inequality is again not confined to South Africa alone but is practised elsewhere with equal persistence in other parts of the British Commonwealth is illustrated by the white Australia policy of the Australian Government. Although this vast country is inhabited only by about seven million people, its doors have been shut against any immigration of non-whites from the neighbouring countries whose pressure of population requires urgent relief. Recently the Australian section of the World Council of Churches condemned this attitude of the Australian people and Government and observed that " White Australia is a direct denial of Christian profession and no scientific investigation has proved that the white race has any claim to superiority either biologically or psychologically." It further pointed out that " the purpose which hitherto dictated the exclusion of oriental and coloured migrants, namely, the maintenance of living standards, the unity of our culture and the needs of defence, can be achieved by other means." It is unlikely that these forthright observations on the part of a liberal organisation will cut any ice with people who are blinded by colour prejudice and judge the merits of a civilisation by the amount of pigmentation of the skin.

Venue of the U. N. Assembly—

M. Lie, Secretary-General of the United Nations, is on a visit to Europe searching for a suitable place where the next session of the U. N. Assembly may be held. Paris, Brussels, The Hague and Geneva are the possible places he is reported to have in view. Of these again Paris appears to be his first choice. But the recommendations he may make in this regard are to be submitted to a committee whose opinion will guide his final selection.

It should be borne in mind in this connection that while Lake Success, New York, was made the headquarters of the League, it was not expected that the meetings of the Assembly or of the different Committees and Councils of the U. N. would be held only at the headquarters. They might be held elsewhere as well. The seat of the League of Nations was Geneva but some meetings of its Council were held in other places. There was no bar also to meetings of the League Assembly being held in places other than Geneva. It regard to U. N. Assembly again there is greater need of its meetings being held sometimes in appropriate European capitals. There was a large section of opinion in Europe which was definitely opposed to the U. N. headquarters being located across the Atlantic. Geneva had been made, after sedulous efforts, into a suitable world capital. Arguments against its choice as the seat of the U. N. were but flimsy. But the prestige which the Americans had gained by their production exploits during the War made their opinion prevail and Lake Success became the venue of the United Nations. By way of conciliating European opinion which is still hostile to this selection, the Assembly may be allowed to meet on occasions in Europe. The present search for a suitable place in Europe has this for its context.

English in Primary Classes—

It is understood that the Government of West Bengal has by a notification urged all schools under its jurisdiction to discontinue the teaching of English in the primary classes. The decision is a wise one. When boys and girls of tender years are engaged only in picking up the 3R's, they must find it intensely difficult to get acquainted with the rudiments of a foreign language. In fact, efforts to acquire knowledge of English so engross their time, that they have to neglect their other studies. The result is that they have to do in six years what they should be able to cover in four years. Secondly, young boys or girls may pick up knowledge of English better and more easily when they have already become familiar with the technique of their own language.

The reported notification should not hearten those who are in favour of banishing English from the curriculum of our studies. It only places first things first.

Governor at the Royal Asiatic Society—

His Excellency Sri Rajagopalachari speaking at the annual meeting of the Royal Asiatic Society of Bengal held on February 16 last, observed that this learned body, founded by Sir William Jones in the last quarter of the 18th century, should confine its activities to the cultivation of ancient history and culture of this country and regard its duties done and its purposes fully served when proper interest is intelligibly taken under its auspices in these cultural pursuits. It would be going beyond its domain to extend its activities to other fields which are more properly and more effectively served by other associations and scientific bodies. " Be proud of the cultural work that you have been doing and stick to it, and do not expand your activities to other channels to make your Society more attractive." " There were other organisations," he continued, " carrying on scientific, industrial and other activities for the betterment of the condition of the people. The Society will be well advised not to extend their activities in those directions. If they concentrated their energies on this one aspect of human endeavour, namely cultural pursuits, as they had been doing hitherto, the Government of free India, I am sure, would give them all the help they needed and respect them all the more."

For this concentration on the study of ancient history, culture and civilisation of this country, it is essential that the Society must not open its membership to all and sundry but should limit it only to those who were intelligently interested in such pursuits. A river does not rise above its source and a society with a heterogeneous membership may not concentrate on its rightful activities.

Demand for an Autonomous Tamil State—

The Associated Press of India reports from Madras the holding of an All-Tamil Conference which was attended by two Ministers and the Speaker of the Madras Assembly. The Conference demanded " the constitution of an autonomous Tamil State " and claimed for its northern frontier the Pennar river which flowed hundred miles north of Madras. The Conference further " urged the recruitment in large numbers of Tamils to the Army and Air Force and demanded that the regiments composed exclusively of Tamils should be formed in the three Services. It also urged the raising of a military training establishment in South India and protested against the inclusion of Hindi and other languages in school curricula." Comments are needless but statesmen should beware.

Reviews and Notices of Books

Our Relation to the Absolute (A Study in True Psychology). By Swami Abhedananda. Ramkrishna Vedanta Math, Calcutta, 1946. Price Rs. 6.

The book under review is made of a course of lectures, the late Swami Abhedananda delivered on *True Psychology* in America in 1920. The publishers have added a preface to the book. In the preface an attempt is made to describe the details the book covers. But, to say the least, the preface presents rotten stuff. It is a pretty mess of ideas and is a misfit in a book that comes from the facile pen of a spiritual leader of modern India. We want the preface to be scrapped in the second edition of the book.

As to the book, one may wonder what have we to do with psychology in our attempt to determine our relation to the Absolute. The main theme of the book is not strictly psychological, although the author begins by a criticism of a particular school of psychology. In short, the author makes an approach to the problem of the Ultimate Reality and our realition to it through a psychological analysis of our nature and experience.

In the first instance, the Swamiji takes up materialism and physiological psychology and through a searching analysis and a slashing criticism of these view-points arrives at the position that consciousness is unique and that consciousness cannot be explained in terms of matter, even in terms of physiological processes that are going in the living organism. His main argument turns round the sense of personal identity and shows acute analyses and a wealth of insights. The author goes on to discuss mental phenomena, their implication and cause. He starts with the duality of mind and body and says much about the relation between them, and about that between mind-body on the one hand and the physical universe and the Cosmic Mind on the other. He traces the super-normal powers of the mind to the powers of the Cosmic Mind. As he puts it, " The individual minds are related to the Cosmic Mind as eddies and whirlpools are related to the current." The Swamiji makes a distinction between soul and mind. Soul, according to him, does not reason, but only knows. It is the mind that reasons. But what is the mind like? According to true psychology, as the Swamiji points out, there are two minds, subjective and objective, which are after all two functions of one mind. And the mind is said to be a substance made of fine matter unintelligent by nature. Then under the heading " Mind and its Modifications " psychical states, such as desire, emotion, intelligence, etc., are discussed and sought to be shown as the modifications of the mind. Now, if the mind is material, its modifications must also be material. Then the states that are ordi-

narily regarded as psychical are to be reckoned as material. Again the Swamiji says that desire is at the root of the whole process of evolution; he refers us to the Text of the *Candogya Upanishad*, which, as he explains it, shows how the Creation proceeds out of one Cosmic Mind. In his use of the term "mind" the Swamiji is not very careful. And the result must be confusion.

We are then given a complete psychology of concentration. The empirical analysis undertaken leads gradually to the field of yoga. The more important part of the book now begins with an analysis of individuality and personality. The author shows clearly with homely examples the distinction to be made between individuality and personality. The analysis he affords us is calculated to cast out from our minds the fear of death. Towards the end of the book the author comes to his main theme—our relation to the Absolute. It seems that he subscribes to the position that the Absolute is beyond all determination, even beyond God—the Lord and Creator of the world; for, God is, according to him, as according to many Advaitists, just phenomenal. But strangely enough the Absolute is conceived as projecting God—the First-born and the world out of Itself. If God is set down as a phenomenon because of His creative activities, how can we, we wonder, ascribe the primal act of creation to the Absolute. Sometimes it is suggested that the world is a delusion; sometimes again the finite spirits are conceived as bubbles or waves on the ocean of Indeterminate Being. All this leaves us in a suspense. It is, however, not that the Swamiji is all dogmatic in his contention that *Brahman*—the Absolute is at the back of the universe. On the contrary, he seeks to support his thesis by some argument. But I am sorry to say that his argument does not rest on any sound logic. He seeks to arrive at the conception of existence or being through an analysis of empirical contents. As he points out, if we remove the name and form of a thing, the thing is destroyed. For instance, a table is a thing there, because it has a name and a form. As soon as the name and form are removed, he tells us, the table becomes a mass of wood. But the point is that by changing the name and form of a thing we do not get at any pure being, but only at some other determinate being. The Swamiji, like many Advaitists, may contend that if we think away the determinate content of things and beings, what would be left is pure indeterminate being. Whether we can at all think away all names and forms is open to debate. Granted, however, that we could do so, we can by no means jump from the proposition "There is pure being" to the conclusion that pure being is *Brahman*—the Absolute. The notion of being or existence is no doubt the most universal of all notions. But being or existence is no universal. A universal is complete in itself and the concept of it is a unity for thought. Being or existence as wholly indeterminate is not an identity and so no unity for thought. Indeter-

minate being or existence therefore passes, on scrutiny, into nothing or non-being. The Absolute is, however, beyond both being and non-being. We cannot logically have recourse even to any negative description of the Absolute. The Swamiji fails to see through the Advaitist's argument. On the contrary, he accepts the argument in toto. Again the Swamiji is in complete agreement with the Advaitist that God is phenomenal and falls far short of the Absolute. God is, after all, conceived by us as the Reality of all realities. Now, if the Absolute is the supreme Reality, God is identical with the Absolute. But the question is whether God has any forms or God is without forms. Sri Ramkrishna told his hearers that God is both Personal and Impersonal and that God reveals Himself with form as with without form. Sri Ramkrishna went on to say that the World-Mother—God the Personal is identical with the Absolute—the Formless. And, if there is a difference between God and the Absolute, there is a difference without any distinction. In short, the Personal and the Impersonal are only two aspects in which God is realized or realizable by a human sādhaka. Beyond this what God is in Himself nobody can tell. It is rather strange that the author of this book being himself one of the direct disciples of Sri Ramkrishna kept clear of the teachings of his Master.

As I have indicated above, I cannot see eye to eye with the Swamiji on some points. This, however, does not detract from the value of the book. The book is written in simple English and shows the author to be not only an erudite scholar, but an original thinker with powers of criticism and construction. The book is, on the whole, a contribution of value to contemporary Indian Philosophy which is now taking shape.

A. C. DAS

India Steps Forward. By Jag Parvesh Chander. Published by the Indian Printing Works. Kacheri Road, Lahore. Pp. 280. Price Rs. 6-8.

Consisting of no less than eighty-two chapters covering nearly three hundred pages and profusely illustrated, the author tells in this book the story of the Cabinet Mission in India. The technique adopted is to provide the reader with all relevant documents and then to draw the author's own conclusions which, it is contended, logically flow from the evidence presented.

Interestingly written in an easy and attractive style, this work of Mr. Jag Parvesh Chander is recommended to those who would like to follow in some detail the work done by the Cabinet Mission.

M. B. B.

Resurgent India at the Cross Roads. By G. Adhicary. Published by the People's Publishing House. Bombay 4. Pp. 24. Price Annas Three only.

This book contains a diary of the more important incidents which took place in 1946, which are interpreted from the point of view of the com-

munist party of India. Probably the only controversial part will be found in the third section where the author gives his views on Congress and League policies. It is commendable as a review of the events of 1946 from the political and economic angle.

M. B. B.

Gurudev Tagore. Edited by R. Narasimhan, M.A., General Secretary, Tagore Society, Madras. Foreword by Sir C. P. Ramaswami Aiyer, dedicated to Sir S. Radhakrishnan. Published by Hind Kitabs, Ltd., Bombay. Pp. 132. Price Rs. 3.

This book consists of thirteen chapters written by different writers on different aspects of the life and achievements of Tagore. They include men like Messrs. Tan Yun Shan, founder of the Sino-Indian Cultural Society in India and Chungking, James H. Cousins, Dr. Krishnalal Shridharani, Benoykumar Sarkar, Dewan Bahadur K. S. Ramaswami Sastri and others.

While it cannot be said that all aspects of the activities of this myriad-minded genius have been dealt with, this compilation does supply a fairly representative account of some of the more striking and important among them.

PEREGRINE PICKLE

Ourselves

University Publications to be given to China

On the request of the Government of India, the University has agreed to send its publications on linguistics, philosophy, religion, literature and history free to the National Pekin University as a gesture of good will to China.

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Tagore Law Professorship, 1924

Sir Tej Bahadur Sapru who had been appointed Tagore Law Professor for 1924 and who, due to preoccupation, could not deliver the lectures earlier, has resigned the Professorship on the ground of ill heatlh. An erudite scholar, a great lawyer and a veteran political leader, Sir Tej Bahadur has added considerably to the international stature of his country. We only hope that he will quickly get over his ailments and take afresh a leading part in the affairs of the nation.

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Stephanos Nirmalendu Ghose Lectures

Principal A. R. Wadia, Stephanos Nirmalendu Ghose Lecturer for 1945, delivered his course of lectures on the 9th, 10th, 17th, 23rd, 24th 30th and 31st January, 1948, at the Darbhanga Hall.

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Adharchandra Mookerjee Lecturer, 1947

Dr. Jnanendranath Mukherjee, D.Sc. (London), F.N.I., has been appointed Adharchandra Mookerjee Lecturer, 1947. The subject of his lectures is 'Anomalous Viscosity in Colloidal Clay System.'

Official Notifications, University of Calcutta

Orders by the Vice-Chancellor and Syndicate of the University of Calcutta

Notification No. R.7

It is hereby notified for general information that the Government of West Bengal have been pleased to sanction the insertion of the following new chapter LIII-B relating to the Master of Engineering (Public Health) course after Chapter LIII-A of the Regulations of this University.

MASTER OF ENGINEERING (PUBLIC HEALTH)

CHAPTER LIII-B

1. An examination for the Degree of Master of Engineering (Public Health) will be held annually at such time and place as the Syndicate shall determine, the approximate date to be notified in the Calendar.

2. Any candidate who has passed the B.E. Degree Examination of the Calcutta University, or any other Engineering Examination accepted by the Syndicate as equivalent thereto, may be admitted to this examination, provided he has prosecuted the prescribed course of studies in an institution or institutions affiliated to the University for the purpose, for at least one academic year.

3. The Degree will be awarded on the recommendation of the Head of the Institution after the candidate has passed the examination and has in addition undergone practical training in Public Health Engineering works satisfactorily, for at least one year. The period of practical training may be reduced by six months in the case of a candidate who can satisfy the Syndicate regarding his previous experience.

4. Every candidate shall send in his application to sit for the examination with a certificate in the form prescribed by the Syndicate, and a fee of Rs. 100, at least one month before the date of commencement of the examination.

5. A candidate who fails to pass or present himself for the examination shall not be entitled to a refund of the fee. A candidate may be admitted to one or more subsequent examinations on payment of a similar fee on each occasion.

6. The examination shall consist of the following :—

			Maximum Marks
I	Written Paper	.. Sanitary Bacteriology, Biology and Chemistry ..	100
II	,,	.. Public Health Administration and Law, Epidemiology and Statistics	100
III	,,	.. Public Health Engineering, I (Water Supply, Drainage and Sewerage)	100
IV	,,	.. Public Health Engineering—II (Water Purification, Sewage and Refuge Disposal) ..	100
V	,,	.. Public Health Engineering—III (General Sanitation, Hospitals, Housing and Town Planning, Ventilation, Food Sanitation, Control of Insect Enemies, etc.)	100
VI	,,	.. Public Health Engineering—IV (Design, Estimating and Construction of Public Health Engineering Works)	200
VII	,,	.. Public Health Engineering—V (Malaria Engineering)	100
VIII	,,	.. Public Health Engineering—VI (Industrial Hygiene, Engineering and Industrial Wastes Disposal)	100
IX	Sessional and practical work	.. ..	300
X	*Viva Voce*	.. ..	200
		TOTAL ..	1,400

7. In order to pass, a candidate must obtain at least 40% of the total marks in each of the above, and 50% of the aggregate. Any candidate who has failed in one of the above by not more than 5% of the marks for that item and has shown merit by securing 60% or more in the aggregate shall be allowed to pass.

A candidate who obtains more than two-thirds of the aggregate shall be placed in the First Class.

8. As soon as possible after the examination the Syndicate shall publish a list of successful candidates. The names of those who have passed in the First Class will be arranged in order of merit. The names of other successful candidates will be published in alphabetical order.

9. The limits of the subjects for the course of studies are as follows :—

(1) Sanitary Bacteriology—Bacterial environment, metabolism, carbon and nitrogen cycles. The role of bacteria. Collection of samples of water, sewage, soil, air, milk, etc., sterilisation.

(2) Sanitary Biology and Chemistry—Algae, fresh water biology, typical organisms of sewage, sludges, activated sludge, trickling filters, etc. River pollution and beach pollution and their effects. Life of animals, insects, etc., concerned in the transmission of important diseases. Disinfection, fumigation, disinfestation. Elementary Physiology and nutrition.

(3) Epidemiology and Public Health Administration—Origin and spread of the more common diseases, such as Malaria, Small-pox, Cholera, Plague, Typhoid, Typhus, Influenza, Tuberculosis, etc. Relation between environment and health. Personal Hygiene and Prophylaxis. Organisation and administration of Public Health in India and elsewhere. Port health and quarantine.

(4) Statistics—General and vital statistics. Application of statistics to Engineering problems of rainfall, run off, floods, population growth, sewage and water treatment.

(5) Water Supply and Sewarage—

(*a*) Water Supply—Design of projects of various tyes. Methods of preliminary investigation of new projects. Estimates of requirements of water, and the development and conservation of various types of sources of water supply. Rainfall, run off and yield of catchments. Statistical analysis of date and estimation of minimum yield, maximum floods, etc. Ground water. Relation between geology and water supplies. Yield and development of wells and tube wells. Design and construction of river intakes, storage works, clear water and service reservoirs, balancing tanks, stand pipes, pumping stations, etc. Design of pumping plants, air lift systems, etc. Distribution systems, pressure and capacity. Specification and construction of water works, pipes lines and auxiliaries. Plumbing. Hot water supply. Economics and maintenance of water works.

(*b*) Drainage and sewarage—Design and investigation of sewarage and drainage projects. Estimation of sewage, infiltration of ground water and storm water from data on population, soil intensity and duration of storms, etc. Hydraulics and design of separate sewers, combined sewers and drains, syphons, separators, manholes, slit pits, etc. Ventilation, cleansing and maintenance of drains and sewage pumping stations and equipment. House drainage.

(6) Theory of Water Purification and Sewage Treatment—Wholesome water. Standards for public and Industrial use. Quality of water and sewage. Chemical and Bacteriological Analysis and their significance. Biochemical Oxygen demand and its determination. Principles of Sedimentation, Coagulation, control of Algae, Filtration, Aeration, Taste and Odour control, Disinfection of water and sewage Effluents. Water softening. Corresign control and Incrustation control. Removal of iron, manganese, etc., Sedimentation of Sewage. Anaerobic Digestion of Sludge. Sludge gas collection and utilisation. Activated sludge process. Trickling Filter. Stability tests for sewage Effluents and determination of their strength. River pollution problems. Analysis and specifications of Chemicals used in water purification and sewage treatment. Manurial value of sewage. Dilution and irrigation. Elementary analysis of gases.

(7) Design of Water Purification and Sewage Treatment plants—

(*a*) Design and construction of structures for screening, aeration, chemical treatment (coagulation), rapid and slow and filtration, disinfection, softening, deferrisation, etc., Water laboratories.

(*b*) Design and construction of structures for screening, grit removal, sedimentation and skimming of septic, Imhoff, sludge digestion and humus tanks, trickling filters, contact beds, activated sludge vacuum, filters, etc. Disposal of effluents on land and in waters. Estimating river pollution and sage loads for self-purification. Sewage laboratories.

(8) General Sanitation—

(*a*) Street cleansing, refuse collection and disposal by various methods, including incineration and composting.

(*b*) Ventilation, air-conditioning, heating, cooling, noise and dust control, smoke abatement. Methods of air and gas analysis, dust counting, etc.

(*c*) Principles of village and town planning, zoning, healthful housing and slum clearance.

(*d*) Type plans, construction and sanitation of hospitals, schools, slaughter houses, dairies, food and drink establishments, markets, eating establishments, swimming pools, disinfection and disinfestation, etc. Rat proof, fly proof and mosqui o proof construction. Sanitary survey and reporting.

(*e*) Rural sanitation problems. Latrine and trenching grounds.

(9) Malaria Engineering—Life history and habits of vectors. Malaria surveys Recurrent, naturalistic and permanent methods of con rolling larvae and adult mosquitoes. Design of anti malarial drains in vario s c cumstances. Canalisation. flushing. River draining. Clearing. Sub-soil drainage. Filling. Adult-spray killing methods. Construction of sprays. Preparation of larvicides and insecticides. Screening of houses. Relation between engineering construction, irrigation and malaria. Malaria control for engineering projects, etc.

(10) (*a*) Industrial Hygiene—Elementary Physiological Hygiene. More detailed class and laboratory instruction on ventilation, air conditioning, dust, smoke and fume control, occupational risks, abnormal atmospheres, safety measures, comfort, etc.

(*b*) Disposal of Industrial Wastes—Na ure and treatment of wastes produced at various stages in the leading industries in Ind'a, such a textile , paper, brewing, tanning, dyeing, metals, etc.

Provided that it shall be competent for the Senate to direct changes in the subjects and/or limits of subjects for the courses of studies, such changes being effected after consulting the Faculties of Engineering and Medicine.

Memo. No. C/4161/Affl.

It is notified for general information that under section 21 of the Indian Universities Act, 1904 (VIII of 1904), the Governor is pleased to order that with effect from the commencement of the session 1947-48 the Gobardanga Hindu College, 24-Parganas, shall be affiliated to the Calcutta University in English, Bengali (Vernacular), Sanskrit, History, Logic, Elements of Civics and Economics, Mathematics, Commercial Geography, Commercial Arithmetic and Elements of Book-keeping to the Intermediate Arts standard and in English, Bengali (Vernacular), Mathematics, Chemistry, Physics and Biology to the I.Sc. standard with permission to present candidates at the examinations in those subjects from 1949 and not earlier.

2. It is understood that the conditions laid down in the report of the Inspector of Colleges have been fulfilled by the College authorities.

Senate House,
The 5th February, 1948.

B. B. Dutt,
Registrar (Offg.).

Notification No. C./4791/Affl.

It is hereby notified for general information that the Governor of West Bengal has been pleased to order that with effect from the commencement of the session 1947-48 the Bhowani Balika Vidyalaya, Howrah, shall be affiliated to the Calcutta University in English, Bengali (Vernacular), Sanskrit, History, Logic and Civics to the Intermediate Arts standard with permission to present candidates at the examination in those subjects from 1949 and not earlier.

B. B. DUTT,
Registrar (Offg.).

Notification No. C./4856/Affl.

It is hereby notified for general information that the Governor of West Bengal has been pleased to order that with effect from the commencement of the Session 1947-48 the Islamia College, Calcutta shall be affiliated in Sanskrit to the I.A. and B.A., (Pass) standards with permission to present candidates for the examination in the subject from 1949 and not earlier.

B. B. DUTT,
Registrar (Offg.).

THE
CALCUTTA REVIEW

NOVEMBER, 1947

CONVOCATION ADDRESS

[His Excellency Shri C. Rajagopalachari's extempore Speech at the Annual Convocation of the Calcutta University held at 35, Ballygunge circular Road, on the 3rd October, 1947.]

FELLOWS OF UNIVERSITY, ASSEMBLED GRADUATES, AND LADIES AND GENTLEMEN :

THE disturbance of the weather has added charm to the proceedings. I am very pleased to see the good humour and tolerance that you are showing to Nature. If only we can maintain this good humour and this spirit of tolerance and a little capacity for suffering, we can go through a great deal. It is a great privilege to me to be associated with this extraordinarily beautiful function. It is a very high honour and one that must be treasured in memory for one's life-time. The elite of Calcutta are here. All culture is represented here. If at a University Convocation in a cultured city in a cultured Province I am a little nervous, you will forgive me. We have heard two very eloquent and informative addresses. Please do not expect any rhetoric from me, not only because it is not necessary but also because I cannot do it. We have met here for the academic purpose of awarding degrees to those who have finished their college careers and who are to go out as graduates ; and of charging them at this ceremonial function with the duties to be performed by them hereafter. The Vice-Chancellor and Dr. Jnanchandra Ghosh have addressed you—two eminent educationists—and it would be pedantry on my part to attempt to reinforce what they have already said. I have, how-

ever, my own duty—my own personal duty to discharge. I thank you all for the extraordinary affection that has been showered on me ever since I came to Bengal. It is an experience by itself. I am supposed to be rather a cold-blooded person. But unfortunately I know to my cost that it is not true. I wish I were cold-blooded, but I am not and, therefore, I have been moved most deeply by the affection that the people of Bengal have unreservedly shown to me. I hope I may be able to leave this Province with the feeling that I have done something in return for all the affection that has been shown to me.

Friends, we are in the midst of great trouble and the temptation is to go into that subject on every occasion. I hope, however, that I shall be able to avoid that temptation. Self-pity is not a very good thing to indulge in. Let us forget our troubles for a little while and let us remember what we have to do.

Doctor Jnanchandra has told you that one of the most important steps which the University might take, would be to form a United Bengal Economic, Social and Cultural Organisation—an " UBESCO," as he very felicitously called it—copying the UNESCO of the United Nations. That the University of Calcutta can fulfil this function is obvious. But do not wait till an organisation of that type comes into being. All of you, graduates, are today charged with the duty of maintaining the unity of culture in Bengal, if not of India. It is your duty, wherever you may be, whatever work you may be at, faithfully and sincerely to carry this message and to function as missionaries of the UBESCO conceived by Dr. J. C. Ghosh. Do not yield to whispers of bellicocity, fear and suspicion, but always be courageous. Have faith ever pursuing the path of goodwill, tolerance and forbearance. We can conquer all difficulties if only we try. Whether you are doctors or lawyers or school-masters or whatever else, remember that at this convocation you are charged with the duty of carrying the message of goodwill and unity of culture and tolerance and the spirit of courage in place of the spirit of fear and suspicion. Conversation is a more effective weapon for good or evil, than any number of speeches. Weigh well, therefore, every word you speak or write so as to ensure that you are never guilty of unkindness or intolerance.

Friends, the great things that this University has done have been put before you succinctly and with eloquence by the Vice-Chancellor. You belong to a great institution of which you may well be proud.

The University itself is, as you must have gathered from what the Vice-Chancellor has said, passing through a crisis as a result of loss of territory following the partition of Bengal. Its empire has contracted and it faces an economic crisis. Great and good men have no doubt endowed large sums but these have been earmarked for particular purposes and cannot, therefore, be drawn upon for the purposes of the day-to-day administration of the University. That is why the Vice-Chancellor is anxious. I join with him in appealing for donations and endowments, not earmarked but available for general purposes in order that the Vice-Chancellor may be enabled to carry on the work of the University efficiently and with dignity. The Government of West Bengal has the same difficulties as the University, namely contracted territory and, therefore, reduced resources and enlarged anxiety. But be patient and tolerant, and I am certain that the Government of West Bengal will in good time come to the assistance of the University and give it all the help it can.

I come now to the question of the medium of instruction. Friends, we have been told that the die was cast in favour of Bengal twenty-seven years ago. This decision, though taken 27 years ago, has not yet fully been acted upon and English still continues to be the medium of instruction in the University. The English language sits on our thoughts even as this academic robe sits upon me. This robe may be beautiful and sometimes protect you against the weather, but it is on the whole an inconvenience; just so, the English language may be beautiful but it sits heavily on our thoughts and does not let them grow, or move about freely.

Now, if the Vice-Chancellor will permit me, I should like to remind the graduates and the elite assembled here of the very fine argument that has been put forward by the Vice-Chancellor about the foundations of a University. He adjured us not to think architecturally in such matters. He was right. Education does not rest like a brick structure on foundations below but grows like a living tree. The University gives the lead to the High Schools and the High Schools to the Primary Schools, very much like a tree ramifying from the stem upwards to the branches. That is how living things grow and yield: the University is the stem, High Schools the bigger branches with Primary Schools as their offshoots.

This leads us to the principle that applies to the medium of instruction. If you keep English as the medium of instruction in the

University, it is next to impossible that students and teachers will reconcile themselves to non-English medium in teaching boys and girls in the High Schools. With English enthroned in the University the High School teacher has necessarily to teach his pupils in English as ere long they will seek admission into the palace of the reigning queen. Hence it is that although the decision was reached twenty-seven years ago in favour of the territorial languages, it has not been achieved as yet. It is very hard also, please remember, to change an order of things that has prvailed for long. For instance, it is not easy for members of the I.C.S. to write administrative notes in Bengali all at once. I am not, however, to be understood as pleading for the " go-slow " method of the I.C.S. I am just urging the " go-fast " method on the Universities. I want you to adopt your mother tongue as the medium of instruction in the University of this Province. And I urge every University to adopt this formula. There are, to day about a dozen important languages in India. Larger estimates are occasionally given mainly in order to frighten us into thinking that India is a big museum. But indeed even if India is a museum, we should retain it as a grand museum, a worthy one with all its splendour and its variety. Apart from that, the main languages we have in India are just about a dozen, *viz.*, (1) Hindi, (2) Urdu, (3) Bengali, (4) Marathi, (5) Gujerati, (6) Kanarese, (7) Tamil, (8) Telegu, (9) Malayalam, (10) Assamese, (11) Oriya and let us add to this list English too. Each one of these dozen Indian languages is the mother tongue of not less than a crore of people—some of them of many crores. In accordance with what prevails in Europe, each one of these languages is important enough for a separate State and for a separate University. Now, therefore, each one of our grat big Universities should, instead of blundering all in the same manner, recognize by agreement or by tacit consent the mother tongue of the area as the authoritative medium of University instruction. Accordingly, Benares may have Hindi, Ahmedabad may have Gujerati, Poona may have Marathi, Osmania may have Urdu and Waltair may have Telegu, Annamalai may have Tamil and Bombay and Madras may continue English, if they like. English can and should be kept as a second language because of its importance in international communication. By all means give English the importance it deserves but please do not make it the medium of all instruction.

I turn now to what Dr. Jnanchandra Ghosh told you about the essential unity of culture. I endorse every word of what he said.

Governments may be divided but India cannot be divided; Governments may be separated but the culture of India is indivisible and cannot be artificially divided. Let all the Universities cooperate through their respective media of instruction for one purpose, namely, to spread truth and thereby maintain the unity of culture in India. A University is not merely an organisation for calling Convocations and for the manufacture of graduates. It is really the fountain head of culture and the inspiration for all life-activities which have to be guided in a cultured and civilised manner. It was, therefore, not an accident that in the old Administration Governors were made *ex-officio* Chancellors of the various Universities in India. They knew that administration was intimately mixed up with education, and, therefore, they placed the Governor at the top of the University as Chancellor *ex-officio*.

All our present ills can be traced to imperfect methods adopted in our education. If our boys and girls are to help our country, we must change the methods of education in the University and thereby inspire changes lower down in the educational system. Till now, education in India was just a slave's accomplishment. The education that will be imparted in India from now onwards will be for a different purpose. Your education will no longer be that of a slave or a servant; it will hereafter be directed towards equipping our boys and girls as citizens of Free India.

Our country is passing through a great ordeal and my advice to you is that wherever you go, young graduates, you must carry with you the mission of trust, goodwill and tolerance, not of communal bellicosity which is a sign of incompetence, fear and suspicion. And I have every confidence that in your own life time you will see the fruit of your work. My congratulations to you, graduates and thank you all very much for listening to me patiently.

CONVOCATION ADDRESS*

P. N. BANERJEE,
Vice-Chancellor, Calcutta University

YOUR EXCELLENCY, FELLOW GRADUATES, LADIES AND GENTLEMEN,

Convention grants me the privilege of addressing you now. My first words are words of welcome to you sir, the first Indian Chancellor of the University of Calcutta. You are also the first Indian Governor of the province of Western Bengal, after the lapse of one hundred and ninety years. On behalf of the University, I offer Sri Jnanchandra Ghose, our public orator to-day, a cordial welcome. I offer also my welcome and the welcome of the Senate to our fellow graduates who are assembled here to-day.

Convocations are always auspicious occasions in the lives of graduates pulsating with hope and fear. The Convocation this year is doubly auspicious. It is our first Convocation in independent India. We normally hold our Convocations in mid-winter. This year we assemble in late autumn. For one year and more we passed through hell. Brother knifed brother, shot at each other. The worst barbarities and the most shameful vulgarities that make the hair stand at an end, reeking with the memories of the convulsive religious wars of the Middle Ages in Europe, have left their indelible stain upon the first city in India, and this ancient land of ours. The University of Calcutta, the biggest University in Asia and perhaps in the world, somehow managed to keep its banner flying, during this period of storm and stress. Peace and good-will amongst men and women seem to have come back to the city. Sanity seems to have returned. The stabilization and the maintenance of peace require constant and prolonged efforts and suffer-

* Delivered at the Annual Convocation of the Calcutta University held on Friday, the 3rd October, 1947.

ings on the part of us all. At the Convocation of the Patna University this year, I spoke about that frail figure with scanty clothes, a thin face, with light divine, trekking from door to door, in far off villages in a corner in Bengal, in the midst of cold and dew. That prince amongst men, in the robes of a poor peasant and a day-labourer of India, brought back to strife-rent Calcutta, peace. The light kindled by the Light of Asia will I hope burn serenely in this city and in these territories, in the days to come.

Death, cold death took heavy toll from our devoted band of workers last year. In Lt.-Col. Dr. Sir Hassan Suhrawardy, and in Lt.-Col. Dr. Sir Muhammad Azizul Huque, we lost two of our former Vice-Chancellors. Both of them rendered signal services to their Alma Mater. In Sir George Rankin and Sir Syed Nasim Ali, we lost two of the Chief Justices of the Calcutta High Court—two of our Fellows, two eminent lawyers and jurists. We lost two of our ardent co-workers in Professor Phanindranath Ghosh and Mr. Jogeschandra Chakravorti. Professor Ghosh held the Rashbehari Ghosh Professorship of Applied Physics for a period of twenty-six years and more. Mr. Jogeschandra Chakravorti acted as Assistant Registrar and Registrar of this University for more than quarter of a century. He toiled and sweated in his busy office, for days and weeks and months and years, and gave his life to his high sense of duty. It will be hard to fill up these gaps in our ranks in the years to come. In Pandit Madanmohan Malaviya, the founder of the University of Benares, one of the modern architects of India, and in the Rt. Hon'ble Srinivasa Sastri, one of the foremost captains of our times, we have lost two of our greatest Indian statesmen, orators, two of our distinguished lecturers and friends. Pandit Madanmohan Malaviya was one of our graduates. In Mrs. P. K. Ray we lost the services of the first Indian woman Member of the Senate. In Edward Thompson we lost one of our distinguished Professors and erudite scholars. He was one of those Britishers who attempted to interpret the message of the East to the West. In A. F. M. Abdul Ali we lost the services of a Librarian of the Imperial Library, the first Indian Keeper of the Imperial

Records of the day and an erudite scholar. The deaths of Mahfizul Huque and Principal Arunkumar Chanda of Silchar, left us dumb. Old age did not claim them. They had years of service before them. In Jogendrachandra Ghosh and in Mahammad Abdul Momin, we lost two of our eminent countrymen. Mr. Ghosh was one of our Tagore Law Professors. His connection with the University of Calcutta as an Ordinary Fellow and as an Honorary Fellow lasted nearly half a century.

The University of Calcutta, of the morrow, will take a new form and shape. It was designed for a particular purpose. That purpose broadened down from precedent to precedent. That purpose in an independent India needs further and greater beneficent expansion. Ours is the oldest University in India. It was founded on the 24th of January, 1857. India then faced revolutionary political changes through the welter of blood. In 1857, its jurisdiction extended over the whole of Northern India including the newly conquered province of the five rivers. It spread over the Island of Ceylon, lopped off from the Presidency of Madras in 1802. It embraced within its fold even the Nizam's territories. In 1858, the total number of candidates appearing at different University examinations was 536.

Twelve years later, in 1870, the number sprang up to 2,395, the number of Colleges affiliated to the University spread over the vast areas, came up to 41, and the number of schools within its jurisdiction was 231. In 1870, Lower Burma was brought under its fold. Twelve years later again, in 1882, the number of candidates, taking the different University examinations, was 5,185. The Colleges affiliated to the University numbered 67 and the number of schools was 342. In 1882, our daughter University of the Panjab—the undivided Panjab of yesterday—was born at Lahore. In 1882, the first Calcutta University Commission was appointed by the then Government of India. Sudden expansion of higher education in this land caused a flutter in the nests of our rulers. The noon-tide of British imperialism had already come. Her Majesty Queen Victoria, on the advice of her Ministers at Westminster, assumed the

title and the dignity of the Empress of India. This was after the disaster of Emperor Napoleon III, at Sedan. In the words of Rosebery, that title, that honour, that dignity remained, for seventy long years, a lotion for external application only. In 1887 was born to Calcutta another daughter —the University of Allahabad.

Twenty years rolled by—a second phase of British imperialism came. With the treaty of Vereeniging, the armed conflict between the Briton and the Boer came to an end. Did the entry of the new phase portend a triumph or a failure? History will deliver its verdict to future generations yet unborn. In 1902, the whole of Northern India rocked from end to end over the speeches, the action of that prancing proconsul of the Empire of Britain, Lord Curzon, one of our past Chancellors. He appointed an all-white University Commission, ostensibly with the object of the reform of the University of Calcutta. Did the University of Calcutta then stoop—to conqueror? In 1902, the number of Colleges affiliated to the University was 82. Its High Schools numbered 671. Territorially, this University had jurisdiction over Bengal, Bihar, Burma, the Central Provinces, Chota Nagpur, Orissa, the Central Indian Agency, Kashmir, a part of Oudh and the Panjab. The Calcutta University Act of 1904 came out of the findings of the Calcutta University Commission of 1902. It passed through the Central Legislature under the presidency of Lord Curzon, the then Viceroy and Governor-General of India. The Central Legislature of those days consisted only of seventeen members. Only four of them were elected members—elected by cramped, cribbed and cabined constituencies of vast territorial expanse. Gokhale and Asutosh Mookerjee of immortal memory, fought hard against the educational policy of the Governor-General and of his Government. They fought in the Legislature in vain. That statute still adorns the Statute Book. The main object and the purpose of Statute have, however, been diverted to the erection of nationalism in India. In vain did Lord Curzon rail against the "Babu intellect," and oriental ethics in his Convocation speech in 1905. The Universities Act of 1904, however, let in light

through a chink. In the light, the vision of a teaching and research University was born. Twelve more years rolled by. The genius of the Vice-Chancellor of the day, whose memory I hold so dear, the unremitting toil of his colleagues, the encouragement and the approbation of his countrymen converted the University of Calcutta into the biggest teaching and research institute in India. Yet, even in 1912, post-graduate teaching and research was in a state of flux. The number of Colleges within the jurisdiction of the University then was only fifty. The number of Schools had shrunk back to 612. Yet Burma and Orissa, Bihar and Chota Nagpur were within our orbit.

In 1914 burst upon an unwary world, the first World War. That war shook the foundations of the British Empire. When victory was in sight, Lord Chelmsford, our last Governor-General Chancellor, and his Government appointed another Commission over the affairs of the University of Calcutta. Public opinion since 1902 had hardened. The Commission, this time, was an educational commission. It consisted of seven members—two of them were Indians—Dr. Sir Asutosh Mookerjee and Dr. Sir Ziauddin Ahmed, for some time Vice-Chancellor of the Aligarh University. That Commission examined witnesses, visited all centres of culture and learning, throughout the length and breadth of India, received suggestions for reform, and at last published their recommendations. Their experiences, their experiments with truth, their suggestions, are embodied in fourteen big volumes. Like the famous fourteen points of President Woodrow Wilson, the fourteen volumes have been relegated to the museum of political curiosities.

The " unreformed " University of Calcutta, under the leadership of Asutosh Mookerjee, initiated and completed the scheme of higher study and research in the domain of arts and letters in Calcutta. He received unstinted support from Sankaran Nair, the then Education Member to the Governor-General's Executive Council in India. Sankaran Nair's continuance in office would have stabilised study and research in the University earlier by ten years. Jalianwalla Bagh led to his resignation. The Government of India

Act of 1919 made education a transferred subject under Provincial Ministers. During the last twenty-eight years, the University of Calcutta suffered loss after loss of jurisdiction in the midst of financial years. It lived under a succession of Muslim Ministers of Education. In 1924, Calcutta examined 36,850 candidates in different University examinations. The number of Colleges under it stood at forty-nine. The number of High Schools, however, increased to 938. Rangoon, Patna, Dacca, the Central Province and Orissa, separated from Calcutta. The undivided Province of Bengal at last accorded tardy though lean recognition of its financial obligations to the University of Calcutta. Dr. Sir P. C. Ray of hallowed memory, cried before the Senate, in the anguish of his soul, "We are not Oliver Twists, asking for mercy." The multi-collegiate system within our fold was not yet reconciled to the concentration of study and research in the domain of arts and letters, in Calcutta. A historic fight between federalism and concentration, between the bureaucracy and the autonomy of the University, between our first Governor-Chancellor and the then Vice-Chancellor led at last to the stabilization of our Post-Graduate Departments in Letters and Science. The State, in the end, recognized its obligation towards the Teaching and the Research Departments of the University. That recognition was welcome. It came, however, after the great champion of higher study and research in these provinces left his mortal coils.

Twenty more years have passed by. The University faces a crisis again. The crisis this time is the child of our independence. We have triumphed over many crises in the past, chiefly due to the devotion of our sons and daughters. We shall again survive the strain. Independence demands from us sacrifices. The sacrifices shall be made. They shall not be made in vain.

I shall now give you a faithful picture of the achievements of your University—my University—the University of the people of Bengal. On the 15th of August, 1947, one of the brightest days in the chequered story of India, we had 1,541 students on the rolls in the M.A. and the M.Sc. classes. 411 of them were M.Sc. students. Apart from

these scholars, the University was responsible for imparting direct instruction to 1,500 more students in Law, Teaching and other departments of learning. The number of constituent Colleges within our jurisdiction was 121; the number of High Schools was 2,300. The vast majority of these institutions was built up by the sacrifice and the devotion of our countrymen spread over nearly a century now. The total number of students reading in all our Colleges was in the neighbourhood of 60,000 and in High Schools about 5,00,000. The number of students registered in 1946, in 44 different types of examinations beginning from the D.Litt., D.Sc., M.D., M.O. to Diplomas in various subjects, from the Diploma course in Maternity and Child-welfare to the Diploma course in Social Work and Tanning, came up to about 92,000 candidates. In 1946, we held examinations on 224 days out of 365 days in hundreds of centres from Calcutta to the Andamans, from the Andamans to Sikkim.

As the first servant of the Senate, and as the steward for the time being of the University of Calcutta, may I give you an account of the progress in the domain of learning made by this University during the course of the last thirty years? I choose the last thirty years as I speak from my personal experience. I do not dream of a Locksley Hall nor do I desire to revisit Yarrow. During this period the number of Matriculates who passed out of the portals of your University, came up to 4,90,000; Intermediates—1,66,000; B.A.'s, B.Sc.'s and B.Com.'s—88,000; B.E.'s, M.B.'s, B.T.'s and B.L.'s number about 23,000; M.A.'s and M.Sc.'s—14,800; M.L.'s, M.S.'s, M.O.'s—13; D.L.'s, M.D.'s, Ph.D.'s—100.

Are we not justly proud of our achievements? Notwithstanding all fashionable criticisms, the University has not lavishly distributed its highest degrees. It has secured for itself international recognition. Most of our examiners, in the cases of our highest degrees, have been men of the most outstanding brilliance in countries other than our own. From my rapid survey, do you agree with me or do you not that the University of Calcutta has done its utmost to-

wards the cause of the spread of education, that it has stood loyally and devotedly by its motto—the Advancement of Learning? We have not, notwithstanding temptations, approved of the motto of a sister University, in a far off land —" Say they, what do they say, let them say."

While I lay my fiduciary accounts before you, am I merely laying stress upon number? Am I ignoring quality? I claim for my University and for your University, a pre-eminent position amongst the cultural centres of the world. In the domain of arts and letters, science and medicine, we calim to have expanded the bounds of knowledge. Our Press alone has had the proud privilege of publishing about 250 volumes of original work during the course of the last thirty years. All the nine journals, in original thinking in India, in Chemistry, Physics, Mathematics, Psychology, Geology, Geography, Anthropology and in Letters and Science, have been our publications. We yield place to none of the Universities included within the orbit of the British sphere of influence in the matter of original contributions to the stock of world's knowledge. I claim that, during the last ninety years of the life of our University, everybody in Bengal who has been or is anybody in the land, has been a child of the University of Calcutta. You remember, do you not—that the first graduate in Arts of the University of Calcutta was Bankim Chandra Chatterjee. His poem 'Bande Mataram' has become the national anthem of India. It has, for half a century and more, upheld the faith of the down-trodden and the oppressed. It has consoled zeal and ardour, patience and fortitude at the scaffold. Do you remember that Mahendralal Sircar is our first graduate in Medicine? After the long lapse of seventy years, a reformed and re-organised national Government at the Centre, has come to the help of his beloved Indian Association for the Cultivation of Science in Calcutta. Seventy years ago, Mahendralal Sircar stood against the momentum of immemorial tradition, fought against intellectual serfdom in championing the cause of a new science of medicine. He was made an outcaste by his fellow physicians and surgeons of the University of Calcutta. Has not his

faith triumphed? Has not truth come out? What shall I say of Hemchandra Banerjee? The India of his dreams sleeps no more. What about Nabinchandra Sen, the high-priest of Indian nationalism? Dwijendra Lal-Ray's banner of freedom burns like a meteor flag yet. Was not Pandit Iswar Chandra Vidyasagar one of the first Members of the Senate of this University? Who shall forget the names of Nilratan Sircar, Kedarnath Das, Sures Chandra Bhattacharyya and Sures Chandra Sarvadhicari, in the realm of medicine? Woomeschandra Bonerjee, Surendranath Banerjea, Ananda Mohan Basu, Ambica Charan Majumdar, Madan Mohan Malaviya, Chitta Ranjan Das, Bhupendra Nath Basu, Kali Churn Banurji and Aswini Kumar Datta are all our sons. Swami Vivekananda was also one of our scholars. Who can forget the names of Rash Behary Ghose, Tarak Nath Palit, Satyendra Prasanna Sinha, Satis Chandra Banerji, Satis Chandra Das, Nripendra Nath Sircar, Ameer Ali, Dwarka Nath Mitra and Sarada Charan Mitra in the domain of Law and Culture? Have not our other sons—Rameschandra Datta, Brojendra Nath Seal, Ramendra Sundar Trivedi, Praphulla Chandra Ray, Jagadis Chandra Bose, Dines Chandra Sen, Hara Prasad Shastri, Ramananda Chatterjee, Upendra Nath Brahmachari—added to the stock of world's knowledge? Sir Gooroodas Banerjee of revered memory was our first Indian Vice-Chancellor. Sir Asutosh Mookerjee wa the architect of the beautiful temple of learning you call the University of to-day. My list is only illustrative and not exhaustive. I refrain from mentioning the names of the living. Most of these heroes of our times gave of their best to their Alma Mater. We must not forget that Rabindranath was one of our sons. He held in esteem the honour conferred on him by his University till the last. That honour was so different from his title which he shed! He honoured his University by accepting a Professorship here. Did not Calcutta materially help to build up the wonderful careers of C. V. Raman, the first and the only Nobel Laureate in Science in India, and Sarvapalli Radhakrishnan, the first Indian to hold a Chair in the conservative University of Oxford?

The University of Calcutta has weathered many a storm. Throughout its life, it has held its head high. Rash Behary Ghose stood up against the greatest of the British Satraps in India of our days. In 1909, the Syndicate of the University of Calcutta resisted the unwarranted interference of the Lieutenant-Governor of the then province of Eastern Bengal. The story of Sir Bamfylde Fuller's conflict with Dr. Asutosh Mookerjee, the Vice-Chancellor, and the Syndicate has been recounted with faithfulness by the then Secretary of State for India in Council, Lord Morley in his "Recollections." In recent days, this University has struggled hard against the attempts of the bureaucracy to reduce the autonomy of the University into a mockery. It has fought against the doctrine of communalisation of education in India. Its Faculty of Law has all along acted upon the fundamental principle of British jurisprudence, namely, that a man must be deemed to be innocent till he is adjudged guilty. It has watched over and helped in building up the careers of its sons and daughters behind prison-bars, during the last twenty years. The number of detenus, security prisoners and internees, permitted by this University to appear at its different examinations from their respective prisons as non-collegiate students, in fifteen years from 1931 to 1946, came up to more than 3,500. The University afforded facilities to its sons and daughters for appearing at their examinations. It supplied University publications to them. It paid their examination fees, chiefly through the liberality of one of its past Vice-Chancellors. The motto of this great University, promulgated in 1921, during a black and bleak period of its life, was: "Freedom first, Freedom second, Freedom always." That noble motto has operated during the last quarter of a century. May I, with all the fervour of my soul, pray in all humility to the Giver of all good that my University, your University, may gain in strength and vitality in the years to come? The cruel hand of Nature and of Man, cyclone, flood and earthquake, political instability and alien con-

quest took a thousand years to destroy the ancient Universities of Nalanda and Taxila. For a thousand years and more the University of Abelard and the temples of learning on the Isis and the Cam have flourished. They have watched men come and go. They have held their torch of learning in the midst of chimerian darkness. We are less than a century old. Now that independence has been secured to us, will the people of this country, will our beloved sons and daughters, will our Government at the Centre and in the Province fail us?—Never.

Our University is the most richly endowed University of India to-day. A comparison between the wealth, the integrity and the self-sacrifice of the two great cities of India in the East and West will be invidious. We have endowments from private sources to the extent of about one crore and fifty lakhs of rupees. These endowments yield an annual income, earmarked for specific purposes, of Rs. 4,20,000, notwithstanding the fact that a stroke of the pen at the Centre reduced the rate of interest from 3½ per cent. to 3 per cent. and thereby caused a loss of Rs. 60,000 a year to our privately endowed funds. These endowments constitute the clearest evidence of the affection and the approbation of our countrymen.

This year we received a donation of Rs. 30,000 under the will of one of our distinguished sons, Ramcharan Mitra, Fellow of this University and Senior Government Pleader to the High Court of Calcutta for more than two decades. Mr. R. L. Nopany, a commercial magnate in this city, has made a gift of Rs. 25,000 to us for perpetuating the memory of his nephew. The Saratchandra Chatterjee Memorial Fund Committee has placed at our disposal the sum of Rs. 30,000 for instituting a lectureship. Mr. K. P. Khaitan, a Member of the Senate and Standing Counsel to the Government of Western Bengal, has made over to the University the sum of Rs. 5,000 for the perpetuation of the memory of his beloved son. Small donations and endowments this year have

come up to Rs. 35,000. I must make special mention of two donations made by two of our sons and two of our Professors. Mr. J. M. Sen, a Member of the Senate, has made a gift of his ancestral dwelling house in Calcutta of the approximate value of Rs. 80,000 to his Alma Mater in part liquidation of his obligations to it. Mr. Sen has been a teacher all his life. Wealth never came to him. Dr. Nil Ratan Dhar, one of our most distinguished graduates, has just made a donation of Rs. 1,19,000, bringing up the value of his endowment to Rs. 2,00,000, for the purpose of the foundation of a Chair in Agricultural Chemistry, in memory of his great teacher, Acharyya Praphulla Chandra Roy. These gifts total about Rs. 3,25,000. Thus do our sons pay their ancestral debts.

I cannot forget to mention two other gifts and also subventions made this year to the University. The one has been made by the Indian Jute Mills Association, for the establishment of a Jute Technological Institute in Calcutta, under the auspices of this University. The Association has paid to the University the sum of Rs. 2,25,000 as the purchase price of land sold by the Tarak Nath Palit Trust to the Jute Technological Trust. The Jute Technological Institute will be built on the site. Plans have been approved. The estimated cost of the building is Rs. 16,00,000. The Jute Mills Association has also undertaken the obligation of meeting all expenses of the Institute, coming up roughly to Rs. 2,50,000 to Rs. 3,00,000 a year. If we capitalise the gift, the benefaction of the Association is the biggest benefaction received by the University, so far. It will come up roughly to more than Rs. 60,00,000. The Indian Jute Mills Association Research Institute has offered a scholarship of Rs. 250 per month to us for three years, for carrying on researches in the Applied Physics Department of the University, in memory of our late Professor, Phanindranath Ghosh.

We are very grateful indeed to the Government of India for the grant of Rs. 2,50,000 for the purpose of the construction of the Social Welfare (Labour) Institute in Calcutta. This course of studies was started by the University in 1942. A new avenue for our graduates in the labour field has been opened

up. The number of students who have been trained here came from the following industries: Jute Industry, 70; Cotton Textile Industry, 13; Engineering Works, 9; Mining Industry, 5; Railways, 5; Paint and Varnish Industry, 4; Navigation and Steamship Organisation, 3; Tanning Industry, 2; Ceramic Industry, 1; Waterproof Works, 1; Match Factory, 1; Flour Mill, 1; Textile Machinery, 1; Tea Industry, 1; Dairy Products, 1; Electrical Goods, 1; Wood Work Industry, 1. The Government of India sent 68 of its Officers for training under the University. They came from 32 different places, all over India. The Government of India has also paid to us the sum of Rs. 70,000 by way of non-recurring grant for the development of research laboratories in Nuclear Physics, under the auspices of Professor Meghnad Saha. It has also agreed to pay us the sum of Rs. 40,000 annually for the same purpose.

Three promises of donations, amounting to more than twenty lakhs of rupees, remain unredeemed yet. If they materialise, the University of Calcutta will not be lacking in public support.

I cannot refrain from giving you an account of financial loss which stares the University in the face, due to the loss of our jurisdiction. The number of Colleges going out of our jurisdiction is or will be 57. The number of students reading in those Colleges in Eastern Bengal and Assam comes up to about seventeen thousand. The number of High Schools which have separated or will soon separate from us is 1,520. Broadly and roughly put, we lose jurisdiction over two-thirds of our High Schools and half of our Colleges. The number of students registered for the Matriculation Examination, this year, was sixty-one thousand. The number of students coming from High Schools in Eastern Bengal and Assam came up to about thirty-six thousand. This serious curtailment in the jurisdiction of the University and the consequent decline in its revenues will, I am sure, not be permitted by our countrymen and countrywomen to paralyse our activities. They will not surely liquidate the great University of Calcutta. The nett annual loss in revenue has been estimated to be between Rs. 8,65,000 and Rs. 11,47,000.

On behalf of the University, I offer our felicitations to the expanded University of Dacca in Eastern Bengal, and the new University of Assam. Any service we can render to them will be done by us with alacrity.

Mere stabilization of the normal activities of the University is not sufficient. It leads to stagnation, and stagnation in the domain of culture means death. Culture must be creative. It must advance. Higher education must extend.

Two criticisms are frequently levelled against us, namely, that we have helped to swell the ranks of the unemployed, in this country. I hope, I have succeeded in demonstrating that most, if not all, of our graduates and under-graduates, during the last thirty years, have been absorbed into the economy of these provinces. Secondly, sometimes an analogy is drawn between architecture and education. Higher education, it is said with pontifical authority, should rest upon sure foundations. An well-organized scheme of free and elementary education should precede expansion of High School education, and a developed and organised system of High School education should precede University education. In my humble opinion, the theory is fallacious. Whether we rely upon arguments from precedents, or arguments from developments, or arguments from consequences, the theory does not stand the test of scrutiny. In England, so far as I know, the Universities came first, then came an organised system of secondary education, followed by only in 1870, after the passage of the two Parliamentary Reform Bills—the Compulsory Education Act. The story in the U.S.A. is not dissimilar. We have to-day, very large parts of the British Empire which are supposed to have primary and secondary schools but no Universities. If the right type of education is a solvent of the many problems that face the world to-day, including racial arrogance, economical disparity and intellectual obliquity, does it not stand to reason that, unless we have an expanded system of higher education, we cannot have captains of industry and commerce—the Dons of culture and learning? Education in all its stages must follow a comprehensive national planning and is an

obligation on the State. The whole of the civilised world has accepted this canon of academic faith.

Custom now demands from me an account of our activities during the past year. The whole of the last year the city of Calcutta rocked to its foundations. There were disturbances of a nature, not known to us, during the last one hundred and fifty years and more. There were murders, arson, looting. Panic, suspicion, distrust ruled supreme. With the greatest possible difficulty the University managed to function. The chaotic condition in the province and the city naturally had its reflex on the academic sphere.

Last year, we made seven new appointments to Professorial chairs. Professor Srikumar Banerjee was appointed Ramtanu Lahiri Professor of Bengali Language and Literature. Professor Hassan Ibrahim Hassan was appointed Professor of Islamic History and Culture. Difficulties in Egypt have not allowed the Professor to join his duties yet. Professor Niharranjan Ray, formerly a Lecturer and Reader in the University, was appointed Rani Bagiswari Professor of Indian Fine Arts. Professor Priyadaranjan Ray was appointed Taraknath Palit Professor of Chemistry, and Professor Prabhatchandra Sarvadhikari, of the Colonial Service in Ceylon, was appointed University Professor of Botany.

Special Lecturers and Readers from foreign Universities delivered courses of lectures to our students. Dr. Barara J. Stewart of the University of Rangoon lectured on "The History and Culture of the Far East." Professor Marle Curti lectured on "Different Aspects of Life and Society of the People of the United States of America." Professor George Catlin lectured on "The Crisis of European Civilisation and a Need for the Restoration of the Values of the Heritage of Civilisation." Professor L. F. Mordell, of the University of Cambridge, and one of the foremost mathematicians of England, lectured on important mathematical problems. Prof. P. M. S. Blackett of the University of Manchester delivered lectures on " Cosmic Ray " as Bidhu Bhusan Roy Memorial Lecturer.

Professor Chang Hsi Lin, of the National Sun-Yat-Sen University of China, has been appointed a Reader to deliver a course of lectures on "Aspects of Hindu Civilisation and Culture." Part of his honorarium will come out of the Bipradas Palchaudhuri Memorial Fund, and the other part of it will be supplemented by the National Government of China. We are indeed grateful to the Republican Government of China for the creation of five Chinese Scholarships of the total annual value of Rs. 30,000 for the cultivation of greater and more intimate contact between China and India—two neighbours and two great seats of ancient civilisation. We have also reciprocated. We have just appointed Dr. Sayyid Sulaiman Nadvi, Abdullah Suhrawardy Lecturer in place of Dr. Zakir Hossain, who resigned during the course of the last year. He will deliver a course of lectures on "The Influence of Islamic Culture on India." Mr. Hemendraprasad Ghosh, perhaps the oldest and most scholarly amongst our journalists, has been invited to deliver the Girischandra Ghosh Lectures of the year. He will deliver a course of lectures on Bengali Drama. Dr. Surendranath Sen, one of our former Professors, and at present Director of our National Archives at Delhi, has been appointed Adharchandra Mookerjee Lecturer in Arts. He will lecture on "The Saints of Maharashtra and the Part played by them in the Rise of the Maharatta Power." Mr. Kalidas Ray Kabisekhar has been appointed Lila Lecturer on an aspect of Bengali language and literature. Mr. Ray's name as a teacher and a poet is well-known throughout the length and breadth of this province.

Last year diverse proposals of the University for changes in the Regulations were accepted by the Government of Bengal. Radio-Physics and Electronics has been made a separate subject of study for the M.Sc. Examination. Plastics has been constituted into one of the special subjects of study in Applied Chemistry for the M.Sc. Examination. The whole of the curricula of the Engineering Degree examinations of the University were radically changed after the lapse of more than half a century. The Engineering course now has four branches: Electrical, Mechanical, Civil

and Metallurgical. A new degree of Master of Engineering in Public Health, has been instituted. This University has not been unmindful of the fact that the new India of the future would require the services of a very large number of engineers in different branches of state activity. Commerce studies in the University are being attempted to be regulated by a special Board of Studies in Commerce. Our Commerce curricula are perhaps too theoretical in character. The new Board of Studies contains not merely representatives of the teaching profession in commerce, but also representatives from trade and commerce in the city. It will soon formulate a scheme, with a more practical bias. Last of all, the University formulated a scheme for tutorial work for all the Colleges affiliated in Arts and Science, to the University. This scheme could not be operated to the fullest extent immediately, owing partly to the lack of funds on the part of Colleges, partly to lack of accommodation and partly to disturbed condition in these provinces. The system is calculated to establish personal contact between the tutor and the pupil in a manner yet unknown to us. It will, it is hoped, remove the difficulties and the deficiencies of our students and will engender a sense of discipline amongst them.

Last year we had a series of conferences of Principals of Colleges. The University implemented the resolutions passed at these important conferences. The pay and the prospects of the College staff were attempted to be improved by a small increase in the tuition fees in all non-Government Colleges. The extra fee realised was ordered to be utilised for the amelioration of the condition of the College staff. The relief thus given has been very small. Our private colleges badly require generous assistance from the State. Every College levied also, a small fee, from each student, for initiating and carrying out a health welfare scheme for the students, and the University undertook an obligation to pay additional subvention. The Colleges have carried out, as far as possible, their part of the obligation. The University has defaulted—due to lack of funds. The expected help from the Government was not forthcoming. The University also agreed to institute compulsory physical training amongst its students. The scheme could

not be operated in view of the abnormal economic condition of the country and in view of the rigid system of rationing. It was for the first time last year that the Principals of Colleges were called upon to discharge their duties to their students in regard to the University examinations. The comparatively smooth conduct of the examinations is largely due to the ungrudging help rendered by our Colleges and Schools.

Last year, the University undertook a survey of the conditions of service of our teachers in High schools, and on the reports of roughly about eleven hundred High Schools, proposals were made to increase the salaries of the tutorial and other staff in the High Schools within our jurisdiction. Compliance with the University circular was requested by the 31st August, 1947. In the mean time, revolutionary political changes have led to separation. The University expects that its circular will be followed, at any rate, in High Schools in Western Bengal. Our proposals could not place all teachers in our High Schools in appropriate grades. A small increase in the fee income of every High School was recommended. The increase has taken effect in most High Schools, but the increased revenue is unable to meet the expenses of the system of gradation. The full operation of the scheme requires help from the State. Last year the University held its Librarianship Training course, and 27 students were admitted into the Diploma course in Librarianship. The Circulating System of libraries, followed successfully in the Presidency of Madras, was the aim of the University for giving training to librarians in our Colleges and Schools, and helping us to drive out illiteracy, in the districts. The scheme requires careful consideration by the State. It requires nursing. It needs the support of legislation. The University suffered one disappointment in regard to its proposals for the changes of Regulations for the Military Certificate examinations. These Regulations were framed by military experts. They have been pending sanction before the Provincial Government for a long time. The Calcutta University Training Corps has now a full strength of 779 cadets. The Commanding Offi-

cer and other Officers are recruited mostly from our Professoriate. The proposal of the University for extending the unit into at least two battalions has not yet received Government sanction. The Indian Air Training Corps. has to its credit 22 cadets. They received their Diplomas from the University last year.

We have separated Political Science from Political Economy in the M.A. Examination. We are anxious to equip our students for diplomatic career in a free India. The change did not come a day too soon.

Shall we now, on this auspicious day, ring out the old and ring in the new? The establishment of Dominion Status for India, with the division of British India into two Sovereign States, have brought in their train, new problems. They require insistent and revolutionary solutions. The whole system of our education needs a thorough overhauling. It must be in consonance with the independent status of India, today. The Province of Western Bengal has an area roughly of twenty-eight thousand square miles, with a total population of about two crores and ten lakhs. It is, today, the most highly developed industrial territory in India. Its agricultural area is, comparatively speaking, limited. Calcutta is the nerve-centre and perhaps the commercial centre of India. Life, therefore, in this province in future, is not likely to be agricultural or pastoral, but will be industrial and commercial. The system of education of the future in this province will be guided largely by the definition of its relationship with the State and with the status that State will occupy in the world. The University of Calcutta of the future, therefore, will have to discharge three noble missions. It will have to be allied more closely with commerce and industry in the province. Secondly, it will have to maintain expound and develop its great cultural heritage of the past. Thirdly, it will have to harness its efforts to the task of national reconstruction—for driving out illiteracy in the land, for making the lives of the toiling and sweating millions more happy and prosperous.

I visualize the development of the University of Calcutta of the future, as a great teaching and possibly a residential

University, with a net-work of affiliated colleges in the districts of Western Bengal. We have mapped out our schools and colleges, within this province. There are areas which are unschooled. Calcutta is over-populated. The pressure on Calcutta will have to be reduced. The reduction of such pressure probably implies the change of the venue of this great seat of learning. Lack of funds, vested interests, affection for the past, the sentiments of the people, are weighty considerations. If it is not possible immediately to have a teaching and residential University, for lack of funds, the question will have to be solved by carrying into execution the scheme for the deprovincialisation of State colleges and schools. Now that the interests of the University and the interests of the State are identical, deprovincialisation need not alarm anybody. Administratively, the Government colleges should be vested in the University. The University maintains supervision over its Medical and Engineering colleges and the Government colleges as well, only through periodical and spasmodic revision of the curricula of studies and examinations. Time has come when the University should have control and supervision over the teaching and the tutorial staffs of these institutions. We are now framing a scheme for the initiation of a regular system of post-graduate teaching and research in Medicine. Calcutta is essentially a medical town. It has more medical colleges and schools within its lap than any other city in the rest of India. Its hospitals are well-equipped. Its Professoriate is well-qualified. Yet, due to circumstances which need not be recounted, Calcutta has not been able to secure its proper place in the domain of medical research, in the world. The present Government and the University are agreed on the establishment of post-graduate studies in Medicine. A joint committee will soon present a well-organised scheme before the public. If the scheme fructifies, an Indian citizen will be proud of the achievements of our Indian medical men. The Indian Medical Service of the past has left memories about Voltaire's famous paradox about the Holy Roman Empire. We require a more developed college of Engineering. The college of Engineering and the post-

graduate institute in Medicine may be constructed on a regional basis. Orissa and Assam could easily be persuaded to join the regional scheme. Duplication and triplication of specialized institutions of this nature are wasteful to the national economy. We require an Institute of Languages in Calcutta. Calcutta is the most cosmopolitan of all cities in India. It is perhaps not known to the public that the University teaches twenty-six different languages to its pupils. Regular courses are held. The Indian languages have their proper place in the scheme of our studies. The Institute will be ancillary to the Institute of Political Science and International Affairs. Independent India of the future will require an army of diplomatic and consular officers and agents. I visualize that, in future, our merchants and traders will, in our own ships, carry on trade and commerce throughout the world. They all will be required to know a number of languages.

The first Professor of Political Science in the University will soon be appointed. It will be his duty to initiate and develop studies in subjects like history of Diplomacy, International and World Affairs. It will be his task to encourage the development of Political, Social and Sociological subjects with the help and co-operation of his staff and of the staff of the highly developed department of Anthropology we have in this University. Sixteen per cent of the total population of India have claimed and obtained Pakistan. Eight per cent of the tribal people in the land we live in, require a more consistent and sympathetic policy for their cultural and social uplift. The Institute of Statistics and our department of Statistics will, in future, present to the world statistical calculations of a type unknown to the Governments of the past. Calcutta is essentially a geological town. Most of the mines where the mineral wealth of India is locked require survey and careful geological treatment. We are not proud of our department of Geology. The Government of India Committee has recommended a subvention to this University for the establishment of a Chair in Geology. The Professor of Geology, in consultation with the Geological Survey of India, will require a Metallurgical Institute. That Metallurgical institute may

again be established on a regional basis. Perhaps its home will be at Asansol or in Tatanagar.

The Government of Bengal has sanctioned our Regulations for the establishment of a regular course of studies, up to the highest Degree stage, in Indian Architecture. Time and man have not been able to efface our great monuments of Indian architecture. They have defied both man and nature these centuries. The problem of problems for our national Ministers of the future will be town-planning and village-planning in India. They will have to solve the question of housing the poor. The proposed school of Architecture will help them to solve their problems. After all, the soul of India, through the changes of fortune, during the course of centuries through which our civilization has passed, has left its impress on brick and marble. Private benefactions for the purpose of establishment of a school of architecture and fine arts will be forthcoming. A subvention from the State will have to supplement our revenues. There is no other school of architecture in any other part of India with a full-fledged scheme like that of ours. We require in Calcutta an Institute of journalism. Our Regulations relating to a diploma course in journalism received Government sanction some time ago. Calcutta is essentially a journalistic town. We have here in Calcutta many important journals with the widest circulation in India. The Regulations were framed in consultation with our leading journalists. Lectures were to have started last year. The abnormal condition of the city, put the hand of the clock back. St. Nihal Singh, one of the reputed journalists of the world, has been appointed Ramananda Chatterjee Lecturer by the University to inaugurate the course of studies in journalism. This University has rendered great service to the cause of women's education in these provinces. Between 1927 and 1947, the number of women candidates appearing at the Matriculation Examination has gone up by leaps and bounds. Our women have kept their pace along with our men students. The most important question for our consideration is whether or not we should have for the average girl student

an alternative but an optional system of education suiting the aptitude, the aspiration and the equipment of the candidate concerned. A generous donor, Vihari Lal Mitra, made a princely endowment to the University yielding an annual revenue of more than Rs. 60,000 for the purpose of improving women's education. The University has, through the agency of the Government of Western Bengal, initiated land acquisition proceedings for the purpose of a fully equipped women's college, which may, in future, develop into a Women's University. We require at once an Agricultural Institute in Western Bengal. The only one agriculture college which Undivided Bengal had, has fallen to the share of Eastern Bengal. It was affiliated to the University of Dacca. Under the terms of one of our endowments, and under our scheme we shall be able to spend about Rs. 40,000 a year on agricultural education and research. The scheme for an agricultural college for Western Bengal is ready. We need a small subvention from the Provincial Revenues to enable us to start an agricultural college.

The most urgent problem which Independent India and the Province of Western Bengal will have to face is the problem of the medium of instruction and examination in our University. Twenty-seven years ago, this University cast its die in favour of the Bengali Language. From 1937-39 instruction and examination up to the Matriculation standard have been conducted through the medium of the vernaculars. Bengali occupies the seventh place amongst the major languages of the world. Our beloved mother tongue is yet in a process of fusion, transformation, revolution. It is a language of the soul. It is a language which we lisped at the feet of our mothers. We have instituted Degree courses in Indian vernaculars. We have a *Paribhasha Committee* in the University, busy coining terms and expressions. That Committee will soon have to be galvanised into action. The number of Bengali publications by the University with wide reputation is about 100. Important books on the history of Bengali literature, on criticism, on sociological studies, on philosophy, history, economics, psychology, art, architecture, religion, have been published by the University. It

will be the task of the University to encourage authors of repute and students of literature, as well, to translate; transcribe foreign books into the Bengali language and to help them in bringing out their original thoughts through the agency of our mother tongue. In this task we shall secure, as we secured in the past, the services of learned literary and cultural societies and of the Indian Press. The process I can assure you will not be slow, but we must remember that raw haste is half-sister to delay.

Graduates of the University of Calcutta, you stand today on the threshold of a great Destiny. It awaits a nation of three hundred million living souls—a sixth of the total human race in the whole world. The bright sun rises in its course and no longer lights a race of slaves. He sets, and his last beam does no longer fall on slaves—ignoble slaves of petty tyrants, of feudal despots, lords fearful only in name. The brightest star in the blue firmament above, beckons you. Remember with pride and gratitude your glorious heritage of the past, pray to Heaven for the souls of those of our lineal ancestors who have through dark and turbid years, toiled and sweated, fought and bled, sacrificed their fortunes, forfeited their lives, for the great battle for freedom. Remember them just as the Romans of old remembered their ancestors, just as we Hindus still remember our ancestors in every auspicious occasion of our lives. Your University, my University, sends you abroad to the world at large. A new India has been re-born. It is for you and you alone to nurse her into glorious youth—full of vim, vigour and vitality. You will require infinite patience, you must consecrate your lives to incessant work, to sweeten the lives of your less fortunate brothers and sisters, to uplift them from the morass of ignorance and poverty and to find a proper place for them amongst civilized mankind. You have to dedicate your lives to the cause of our great and beloved country. A new star has risen in the firmament. The moon, in all her splendour, is careering overhead, in her path through light-blue ether. Tread the path of virtue with your stock of knowledge. Instal, enthrone, worship Truth. Will interested emotionalism in the world respond to your soul-force? Will the

echoes of the great heroes of the land in the past, roll from soul to soul ? Will it not be the mission of your life to defend your country, to uplift humanity as a whole, and to spread the great message of India throughout the world? The world to-day is distracted with fear. It is haunted by memories. It is overridden by the lust of power and greed.

" Love thou thy land, with love far-brought
From out the storied Past, and used
Within the Present, but transfused
Thro' future time by power of thought.
True love turn'd round on fixed poles,
Love, that endures not sordid ends."

I offer my blessings and greetings to you all.

BANDE MATARAM!

CONVOCATION ADDRESS*

SIR J. C. GHOSH, KT., D.Sc.

YOUR EXCELLENCY, MR. VICE-CHANCELLOR AND MEMBERS OF THE CONVOCATION :

YOU have done me a great honour by asking me to address you on this historical morning when a great Indian is presiding for the first time over this Convocation of my University. I have been deeply touched by this kind invitation. I naturally recall the days when I was a student like the graduates of the present Convocation —the days of hard struggle which were sweetened by the friendship of many who are here today. The Vice-Chancellor has just mentioned that he was one of such friends. One cannot but be grateful to his *Alma Mater* for bringing together those who formed a lasting friendship by sharing the life of a common endeavour. I am thankful that I have been blessed with many friends and I wish and I recommend to you that you would perhaps do better to cultivate many more such friendships.

My college days were sweetened and brightened by the association of many teachers. One of them has been the greatest influence on my life. I mean Acharyya Praphullachandra Ray. No man in his time was more revered by the student community of Bengal, no man in his time received greater ovation in an assembly of cultured minds. He preached and practised the ideal of plain living and high thinking and was a source of inspiration to those with whom he came into personal contact. He believed that the best in the pupil was brought out by the teacher giving them his all and this process reached its culmination when the pupil surpassed the teacher in the creation of new knowledge or exposition of existing knowledge. This morning I offer my homage to his revered memory.

To my mind no Convocation in this city should be addressed without homage also being rendered to the memory of that great and towering personality, Sir Asutosh Mookerjee, whom the Vice-Chancellor calls the architect of this beautiful temple of learning. I revere him more as a patron of promising youngmen whom he collected round him, and nursed with care and affection. He rejoiced more

* Delivered at the Annual Convocation of the University on the 3rd October, 1947.

than anyone else when they made successful excursions in the frontiers of knowledge. I was one of those who were bestowed such favours and I do not know how I should repay the deep debt of gratitude which I owe to him. I wonder whether those who have followed him in authority here have equal confidence in their judgment of men, and had the courage to take the risk,—justifiable risk—in selecting proper men round about them. It has been said sometimes that the University of Calcutta is living on the capital created by Sir Asutosh Mookerjee and that youngmen today are not picked up with the same discrimination and given the same facilities for their highest fulfilment. I hope this information is not correct. I happened to visit some of the Universities in North America three years ago. I may tell you that they have realised the true significance of the great saying of our poet : " Jauban ke dao Rajtika " : Give crown to the youth, who must be given exceptional facilities for self-development. They would rather take the risk of putting the crown on promising youngmen than have the complaint that youngmen with some exceptional traits of ability could not achieve what they were capable of achieving because hinderances in their path were too many. I shall be glad if the University of Calcutta in its new setting recaptures the boldness of Sir Asutosh Mookerjee and gives the promising youngmen a chance to prove their worth as members of the staff of the University. Then only, Sir, this oldest University of the people of Bengal need have no fear of losing its pre-eminence in the educational field of India.

Forty years ago when Sir Asutosh Mookerjee was the Vice-Chancellor of this University, Calcutta was the capital of India. Today she is not even the capital of the proud province that once was called Bengal. The political unity for which our people made great sacrifices ceased to exist on the 15th of August. People belonging to the same race and speaking the same language have decided that they belong to two nations because they profess two different religions. It is a miracle that they have parted in peace under the great leadership of Mahatma Gandhi. The people of Calcutta and also of Bengal have shown that miracles can happen even in the 20th century, and by this act of reconciliation they have covered themselves with glory.

What better national memorial can we have for the great Mahatma on the completion of 78 years of his life than this—that we dedicate ourselves to the purpose that though political boundaries separate Bengal into two we shall maintain the cultural unity of Bengal and

that we shall, whether Hindus or Muslims owing allegiance to Calcutta or Dacca, retain the same outlook in life, the same modes of expression and also, as Calcutta has shown, the same sentimental exuberance, emotional fervour, and reckless idealism which is considered as common heritage of our race. But for permanent reconciliation and the stabilisation of peace in this land some permanent organisation is necessary ; and for this purpose I feel that we require a United Bengal Educational Scientific and Cultural Organisation—UBESCO as I call it—which will transcend all political consideration—which will evoke the loyalty of every Bengali either Hindu or Muslim and which will in the fullness of time be considered as one of the most powerful and living organisation to influence, shape and develop our culture.

It is rather unfortunate that in another part of India partition has led to the most disastrous consequences. Barbarism has made imperative the migration of people running into millions and the resources of the Government of India and of Pakistan are now largely devoted to the solution of this tremendously difficult problem. A ministry for Relief and Rehabilitation has been set up and no expenditure is considered too high to make a success of this job. Let us all hope and pray that we in Bengal escape this terrible experience of mass uprooting of people. Let us pledge ourselves that in the boundary that separates Bengal into two, peace shall ever prevail as in the boundary that separates the United States of America from Canada. Sometime ago I happened to cross and re-cross that boundary many times, but no fortress, no sentry could be seen anywhere along the line 3,000 miles which in the school map is supposed to divide the United States of America from Canada. Let us pledge to educate our people in such a way that a conflict over the boundary that separates Bengal becomes as unthinkable as a conflcit between the United States and Canada. Let us, therefore, urge on the Government of India to place ample resources at the disposal of the United Bengal Educational Scientific and Cultural Organisation, at least two crores of rupees every year, so that it may become a living and powerful organisation ranking in importance with the Ministry of Relief and Rehabilitation and competent to tackle successfully the many problems that are needed to reconcile the people in the eastern frontier of India who have parted company in a peaceful manner.

There are people who do not believe that such a permanent reconciliation is possible. During the last two days I have met hundreds of respectable citizens coming from East Bengal to Calcutta and

discussed this question of reconciliation with many. I do not despair. As educationists we have an advantage. We recognise that there are four phases in the development of a human being—the phase of early dependence in childhood, and then adolescence when a boy and also a girl struggles to be free from all restraining influences and os often wayward and unaccountable. Then early youth when he plants his flag of independence and sets sail alone on the voyage of life ; and finally maturity when he proclaims that interdependence is the basis of all stable social relations. A parent as also a teacher thanks God that adolescence is a period of temporary insanity. A nation also passes through similar phases of development. India has outgrown the childhood of dependence on Great Britain. Independence has been gained but its free implications have not yet been realised, and if at this stage, the action of a section of our people appears to be unaccountable, such action represents the temporary insanity of an adolescent people. But we are confident that when our people have enjoyed for sometime the freedom, that they have gained in the ways they have selected, they would proclaim that the interdependence of the various parts of the geographical unity, that is India, is essential for the rational solution of the many problems that face a resurgent country.

I am reminded in this connection of the old story in our mythology —How at the dawn of life in this universe the oceans were churned. The first thing that came out was *hala hala*, the most malignant poison. The last thing that came out was the nectar. The great god Siva swallowed this poison and saved the creation. He came to be called *Nilkantha*. It is not unlikely therefore that at the dawn of anew era in India when the ocean of human life is being churned,when an old order has tumbled down and a new order is struggling to be born, some poison will also come out. Unfortunately today there is no God to swallow this poison. But modern man believes that God helps those who help themselves, that human intelligence is a spark of the Divine and that man must draw from the accumulated experience of his fathers the inspiration to deal with such poisons. I shall not be a fool to rush in, where angels fear to tread and prescribe an antidote to this poison ; but I cannot help recounting some feelings which I experienced when I mused on this problem a year ago in a historic spot in Europe. I happened to be in Basle, a prosperous town in Switzerland, famous for its chemical and electrical industries. There, even a scientist is sometimes lured to the beauty spots of

Nature ; and the bank of the Rhine as it flows swiftly down the Alpine hills and changes suddenly its direction from the west to the north to debouch into the plains of Germany was my favourite haunt. At this corner three countries of Europe meet. As you face north, towards your right, in front of you, lies Germany whose people intoxicated with pride and power sought to dominate Europe twice in one generation, now laid in the dust—nobody knows when to rise again to her full legitimate share—the flower of her manhood dead and gone, a land of crippled men, emaciated women, stunted children clad in rags and begging for food—a lamentable fate for a great and gifted people who have made undying contributions in many spheres of arts, science and industry. Towards your left and again in front of you lies France, her people waking up just from a nightmare of five years' slavery, the present generation very much unlike their fathers of 1792 who swore to immolate everyone who breathed a proposition to surrender, who dared and always dared to conquer the enemy—a land now prey to petty jealousies which foreign domination breeds, a paradise for black marketeers indifferent to the sufferings of the honest poor. These two countries present to you a fearful spectacle of what man has made of man, how civilization has crumbled down under our very eyes because of open conflicts and hidden stresses. But behind you lies Switzerland, easily the most prosperous country in Europe today, picturesque beyond imagination, where the wondrous beauties of Nature have been perfected by the handiwork of man, and all men and women are engaged in gainful occupation and look pictures of health and happiness. Yet Switzerland is a sovereign State, whose people belong to three national stocks, Germans, French and Italians, who speak three languages and profess two religions. The German speaking Prostetant Swiss however does not think of a French speaking Roman Catholic Swiss as his hereditary enemy but embraces him as a dear neighbour, each intensely proud of his Swiss nationality. Religion, language, social customs—words, mere words : They are not afraid to look these words in the face. It is the man behind that matters. They in Switzerland recognise that it will be a dull world of theirs if it were to contain one uniform type of population. A landscape is not worth looking at if it features a uniform plain. They consider that diversity instead of giving rise to disruptive influences should be welcomed as the salt of life, should be welcomed as containing in it the seeds of greater progress ; and based on this philosophy of life they have

a place in a factory or an office or a firm, earmarked well in advance of the completion of their studies. No one wants today to eat the bread of idleness; and our educational system should be so integrated with national planning that every educated person should be secured, freedom from fear of unemployment. This fear is far more crippling to our youngmen than even fear of want and any system of planning which aims at removing such fear should have priority over every other programme of nation building activities. In Bangalore under the guidance of Sir M. Visvesvaraya we thought that a large section of the matriculates should be diverted from stereotyped intermediate colleges into occupational institutes of a new design. Analysis was made of the more important occupations in South India which require skilled workers having a high school education; and one after another, 25 such courses were introduced into the occupational institute at Bangalore in order of their relative importance in the labour market; and I am very glad to state that the trainees from this institute have been absorbed in gainful occupations much faster than they have been produced. This institute has captured the imagination of the people of Mysore. Educationists, philanthropists and local bodies are pressing on Government to open similar institutes in other parts of Mysore promising to subscribe locally a part of the capital cost of building and equipment.

An Occupational Institute for Calcutta

I would urge on the Government of Bengal to carry out this experiment on right lines in Calcutta and if found successful, adopt it on a very large scale all over the province. Such training is very expensive. The Occupational Institute at Bangalore has already cost us 23 lakhs of rupees and it is estimated that the ultimate cost will be about 40 lakhs of rupees, which will provide training of one thousand day scholars and also about one thousand evening scholars. I do hope that the Government of Bengal will not be frightened by such scale of expenditure. I would recommend to them the example of France where a tax equivalent to 3% of the wages bill has been imposed on all industrial and business concerns in order to obtain the funds which will provide such education. Such a tax is equitable as its proceeds are entirely devoted to the training of youngmen who will ultimately become skilled operatives in such business and industrial concerns.

Need for New Home for Scientific Work

Of course it is not the business of the University of Calcutta to promote this type of technical education. But if I were to pursue my thoughts further I would suggest, and suggest very strongly, that the Government of Bengal may be persuaded to take over the land and buildings of the two sections of the University College of Science into an occupational institute at Calcutta, and that the University in its turn may be paid sufficient funds which will enable it to open a residential University College of Science with the most up-to-date laboratories in the suburbs of Calcutta. The present laboratories will have to be in any case renovated beyond recognition and expanded very considerably if Calcutta were to provide modern facilities for research and post-graduate training in science. Truth in Science is discovered by single-minded devotion to the spirit of enquiry and, if possible, by forgetting the world ; but the conjested centre of Calcutta is too much in turmoil for any one to forget the world. It is not suggested, however, that the University of Calcutta with its affiliated colleges, with its Faculties of Law, Medicine and Commerce should be removed from their old homes in the city.

It is an education itself for a University student to live and grow up in tune with the life of the community whom he intends to serve after the completion of his education. As a matter of fact I do hope that the University would have far more intimate and organic relations with the life of this city. The Vice-Chancellor has deplored the contraction in the area of the jurisdiction of this great University. I do not feel unhappy like him. I believe that the contraction of the area over which the University extends its jurisdiction offers for more compensating advantages than difficulties. I ultimately envisage a University of a teaching type for the city of Calcutta itself. In the course of evolution the Mammoth of ancient times has yielded place to modern man ; and I believe, this has been a progress in the right direction.

The problems that face an ancient nation at the hour of resurrection are very difficult. It is a colossal enterprise to solve them but we should remember that we are heirs to traditions of great enterprises having been successfully executed in the past by our illustrious heroes. For instance it is said that the river on which this city stands, which gives it sustenance and life, was not there according to one view, some 3,000 years ago. A great king Bhagirath by name is said to

have won the favour of the gods by his unparallelled devotion and was given the strength of a Titan. This strength he used for transporting this mighty river over a land where under a curse the jungle had swallowed civilized life. The river drained away the salt marshes, gave communication to the sea, fertilized with sweet water the soil, which bore rich crops and thus laid anew the foundations of a new civilization. Hence this sacred river is called the Bhagirathi. And now that a greater curse—that of slavery, has been lifted from the land and the ground has been cleared for raising the structure of a new life for our people, can we not conjure up in our imagination the vision of this mythical hero whom our fathers conceived and rediscover the spirit with which he served the Motherland,—boldness in planning, thoroughness in execution and hand to work, heart in God?

I do not presume to give you any advice; but I pray and wish you all to join in my prayer that each one of you may become a Bhagirath, may have his boldness in planning your life's work, may attain his thoroughness in executing these plans, that each one of you may practise with all your strength the *Yoga* which Lord Krishna preached as efficiency in action. It may be given unto some of you to devote your abilities to vast schemes of reconstruction as administrators, engineers, scientists and medical men; it may be given unto some of you even to transport mighty rivers through barren lands and malarial swamps; but whatever may happen, it is given unto everyone of you to do what is equally important and more urgent today—transport little streams of sympathy into the lives of your neighbours, transport little streams of fellowship and good will into the lives of different communities and drain away the filth of suspicion and distrust. May you all, with malice to none and charity for all, with hand to work and heart in God, march on the road of new life singing, rejoicing, with the Poet of the new age:

> It is a bliss to be alive in the dawn
> But to be young is very Heaven

I, who am not young, wish you well, with all my strength.

THE INNER HAVOC IN SHAKESPEARE'S TRAGIC HERO

PROF. P. K. GUHA, M.A.

NOTHING is so inaccurate and so misleading as the current and widely accepted statement that in Shakesperean tragedy 'Character is Destiny.' The basic tragedy of life is that Character and Destiny are not one and it is this and not its reverse that Shakespeare has put on the boards as a tragedian. The act of his tragic hero, no doubt, leads to its natural consequence. But he has provided for this only to make his play aesthetically satisfying, and this should not lead us to hold that in Shakesperean tragedy character is destiny. A scanning of the nature of the hero's act would preclude a superficial view like this.

The distinctive feature of the Shakesperean tragic hero is that his act is not characteristic of his character. In other dramatists the crucial act of the tragic hero is an exact reflection of his character, the passion that actuates the deed being a reflex of the hero's natural instinct. But in Shakespeare the tragedy lies in the cutting off of the nexus between character and act, between native instinct and the impulse that leads the hero to his fatal deed.

In Shakesperean tragedy the essentially tragic does not lie in what befalls the hero or the other characters by way of untoward events but in what happens to the hero internally. The most fateful and truly tragic event in Shakesperean tragedy is the inner havoc on the character of the hero.

The central situation of a Shakesperean tragedy is one of a tremendous internal turmoil for the hero. The passion that it rouses is repugnant to his character. It invades his mind and he gives it a stout resistance. The most philosophic of his tragic heroes,—Brutus, has analysed for himself and all other tragic heroes of Shakespeare, the state into which the hero is thrown. He is "with himself at war" and his entire being suffers, like to a little kingdom, something like an insurrection. His native genius and the fatal impulses called forth by the alien passion are then in council. He passes through a phantasma or a hideous dream. He fights with all his might against the passion for it goes counter to his rooted instincts. Fate prevails and he has to give way in the end. He is thrust into an act which is totally

uncharacteristic of him. He is completely unhinged and does he know not what in a state of wild frenzy.

The 'tragic waste' of other tragic dramatists consists exclusively in the undeserved misfortunes overtaking innocent persons by the mere accident of their association with the hero. In Shakespeare this element of tragic waste is there, but it pales into insignificance by the side of the terrific tragic waste that befalls the hero himself in the shape of a disintegration of his very being, a depersonalization that completely transforms him, stifles his infinite potentialities for good and infuses into him a passion fraught with the deepest mischief.

In other tragedians the hero's act corresponds to his character while in Shakespeare there is contrast between the two. In Shakespeare's tragic conception, tragedy lies in this contrast. According to him tragedy takes place only when a fatal folly or crime is perpetrated by a person, who, in a normal state, could not dream of doing a deed of that kind. In other tragedians the tragic passion is an intensification of the hero's natural instinct, in Shakespeare it is a perversion of it; and it is in this perversion that the essence of the tragedy, as conceived by Shakespeare, lies.

A Shakesperean tragedy, unlike a tragedy by other dramatists, is a double-chambered play. It not merely depicts what the hero is in the action of the play but also what he is by nature, and the two are different. Whoever goes through a tragedy of Shakespeare without looking simultaneously both at this picture and at that does not really read the play. And the two pictures are equally luminous. There are all through endless cracks in the surface. Through these we catch glimpses of the recesses of the hero's natural self, and the antithesis between what he thus seems to be by nature and his behaviour in the action of the play is a measure of his tragedy.

Every tragic hero of Shakespeare thus appears to be endowed with a dual personality. A casual reading of the play would produce the impression of a gross inconsistency and lack of unity in the character. The trend of modern Shakesperean criticism is towards looking upon a Shakesperean tragic hero not as one character but as a blend of two or more characters. The endeavour of Victorian critics like Bradley to discover a basic unity in the Shakesperean tragic hero is being treated by critics today as a futile ingenuity in disregard of the essential character of Elizabethan drama. It is being pointed out that Elizabethan drama is only partially dramatic and it is full

of elements that are purely narrative, for example, the soliloquies which, it is said, are meant to develop the plot rather than to unfold character. There is no justification, it is suggested, for interpreting the soliloquy as a self-analysis on the part of the character,—the articulateness being Shakespeare's and not the product of any unusual self-awareness on the part of the character. It is also being urged that the distinctive feature of Elizabethan drama is not organic unity but 'episodic intensification.' The Elizabethan dramatist, it is said, concentrates on the scene in hand, without too much regard for the total unity and consistency of his play, an Elizabethan drama being more of the nature of a variety performance than a well-knit single play. Modern Shakesperean critics hold that inconsistencies have been freely introduced by Shakespeare into his characters according to this current convention, and the quest of a psychological consistency in a Shakesperean character is, therefore, a wild-goose chase.

The depersonalization of the Shakesperean tragic hero is admitted by these modern critics but they would treat it not as a psychological transaction but a mere exigency of the plot-structure of the play. It is traced to the distinctive technique of Elizabethan drama with its loose mixture of the dramatic and the narrative and its episodic elaborations. The writer is so concentrated on the content of a speech as to ignore the speaker's identity. Prof. Schuking considers Cleopatra in *Antony and Cleopatra* to have acquired two distinct 'characters' through this disjunctiveness; there is discontinuity, he thinks, between the wanton of the earlier scenes and the tragic queen who triumphs in adversity in the end. Prof. Stoll denies altogether the relevance of psychology to Shakespeare's treatment of character. To him the tragic heroes themselves present combinations of self-contradictory qualities which could not co-exsit in an actual person.

We would here contend that this depersonalization of the Shakesperean tragic hero is the result of the psychological disintegration of a character with a fundamental unity and not of a loose admixture of inconsistencies in a single character. The modern double-character or multiple-character hypothesis in respect of the Shakesperean tragic hero seems to us to be a counsel of indolence and despair. It is the product of a spirit of superficial literalness that deliberately shuts its eyes against the inner significances which alone constitute the Shakesperean feature of a tragedy of Shakespeare. It is refreshing to meet with a few modern critics like Middleton Murry and Edmund Blunden who penetrate through the outer discrepancy into the inner

unity in Shakespeare's conception of his tragic hero. It is heartening to find a statement like the one we come across in Blunden's essay on "Shakespeare's Significances," namely, that "There is a unity between the scattered eccentricities of Lear."

The Shakesperean tragic hero is a transformation of the hero's normal personality. But however strong the tragic passion that brings about the transformation may be, the normal character is irrepressible and peeps through all over the play, or, if effectively repressed over a large part of it by the exertion of an exceptionally powerful will, bursts out at last, all of a sudden, and completely demolishes the uncharacteristic role that was thrust on the hero by the circumstances of the play. It is not a case of a character with a double personality but of a character essentially one and driven by Fate, in collusion with character and circumstance, to a course of thought and action that transforms him into a totally different person.

The main transaction in a Shakesperean tragedy is this transformation of the hero's normal character.

The exceptional profundity of Shakespeare's dramatic instinct is indicated by this technique of transformation that is adopted by him in his tragedies. It enables him to produce an impression of passivity in regard to the tragic action. This strikes the note of the sway of Fate and preserves sympathy for the hero in spite of the folly or crime that he commits. These are the two essential requirements of tragic drama, and it is impossible to imagine a more potent instrument for their fulfilment than this device of transformation of the character of the tragic hero, hit upon by Shakespeare.

Shakespeare never forgets that tragedy's essential business is not the portraiture of character as such but the presentation of man in grips with circumstance. He never loses sight of the fact that its theme is not man as a free agent but man in the clutches of fate. He invests his tragic hero with a magnificent personality and a splendid character and at the same time presents him as swept off his feet by an irresistible force that changes him almost out of recognition and drives him to a deed that is thoroughly uncharacteristic of him. There could not be a more effective and expressive symbol of the sway of fate over man than the picture of a great character transformed into an entirely different being before our eyes. Shakespeare always feels that in order to pervade the play with a true tragic spirit it is necessary to make the hand of Fate visible in every event and action in the piece. Unlike other tragedians he does not consider it enough to

symbolize the operation of Fate only at the end by making the catastrophe disproportionate to character. He casts the shadow of doom over the whole play by presenting the hero as doom-driven from the beginning to the end. And he finds the most significant symbol for the sway of fate over the hero in a devastation of his very being and a perversion of his natural instincts. Shakespeare's tragic hero is never normal. He is never altogether the master of himself. He does not function completely as an active agent and is, in a large measure, a passive instrument of fate.

By this device of the transformation of the tragic hero Shakespeare attains the further object of safeguarding the reader's sympathy for the hero by a mitigation of the shock of his necessarily atrocious act. His tragic act impresses us as done not so much by himself as by some other person, his normal self being incapable of doing such a deed. If Macbeth, the murderer of his king and host, Hamlet, the slayer of innocent Polonius, Othello, the destroyer of his guiltless wife and Lear, the banisher of his most loving and devoted child do not forfeit our sympathy, it is because of the impression in our minds that the characters were in a state of infatuation at the moment and should enlist our sympathy rather than incur our wrath for what they did in utter self-forgetfulness.

It also enables Shakespeare to achieve the tragic 'Catharsis' in the fullest possible measure. Pity is roused in an abounding degree as the catastrophe does not issue out of a free and untrammelled exertion of the personal will, the act corresponding to the character. It provides a full attenuation of the hero's personal responsibility for the act by producing the impression that his suffering is to a large extent undeserved. The contribution of character to catastrophe is not cut out but it is reduced to a minimum. And like Pity, Fear too is fully evoked. We are seized with a sense of community of fate with the great sufferers of tragic drama. Their status and personality isolate them from us but they are brought close and made akin to us when we feel that they too, like us, are at the mercy of a power, not ourselves, that does not make for righteousness. When we witness the mighty Titans caught, overpowered and metamorphosed by Fate, we are filled with a fear that a similarly crushing misfortune may any day befall lesser mortals like us.

A NOTABLE PIECE OF CRITICISM

SIR C. P. RAMASWAMI AIYER

Dr. Sachchidananda Sinha's latest book, *Iqbal, The Poet and His Message** is a *tour-de-force* in more senses than one. Into a crowded life compact with such varied activities as those of a journalist, a lawyer, a legislator, an administrator, and an educationist, Dr. Sinha has also compressed much literary activity. This volume, however, is more than an attempt to evaluate the poetry and philosophy of a distinguished Muslim author and public man. It is also a revealation of the author's own colourful personality and his many-sided erudition. Appendix III, which occupies 26 pages of close print and contains a list of authors and books referred to in the text of the work, is amazing in extent and variety, and bears testimony not only to the author's diligence but to his anxiety to acquaint himself with everything that could be said on the problems with which Iqbal dealt.

In Chapter XIX, after dealing with the contributions to literature and philosophy of Iqbal, the author furnishes his own interpretation of Islam; and it was with surprise and pleasure that I discovered a quotation from one of my speeches, wherein I had pleaded that the religion of Mohammad, as conceived by the great prophet, was not a religion of division or persecution but a religion of tolerance and fellow-feeling. Dr. Sinha, referring in extenso to the *Quran* cites several passages proclaiming the unity of God and the equality of humanity and finally quotes Kabir " If the Creator dwells in tabernacles only whose dwelling is the Universe ?" He points out that Quranic Islam is based on a correct appreciation of the laws of human nature and its limitations, and takes a realistic view of the needs of humanity, trying by practical methods to elevate it from imperfection to perfection. The subject of the struggle between dogmatism and realism in the history of Islam is also dealt with in detail, and it is from this point of view that Dr. Sinha proceeds to analyse Iqbal's work.

II

Sir Mohammad Iqbal's life was not eventful; and as demonstrated in Appendix I, containing an account of the relations between him and Sir Fazl-i-Hussain, it is obvious that Iqbal did not possess

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the gift of compromise, and thus failed to obtain the positions to which his talents entitled him. He was of Kashmere Brahmin ancestry and, after a short period as lecturer and professor, entered the Bar, but was not particularly successful in that profession. The State of Bhopal awarded him a pension of Rs. 500 a month, and enabled him to pursue a literary life. He attended the Round Table Conference, but resigned his position, returned to India and strongly denounced the British Government. Attempts made by his friends to help him were often frustrated by his want of tact. As early as 1931, he spoke on the importance of constituting a North-western Indian Muslim State and he was, thus, one of the originators of the Pakistan idea and, although in his earlier poems, he had sung of the unity and greatness of India, yet he gradually began to emphasise what he considered to be the radical differences between Hindus and Muslims.

He consistently opposed territorial nationalism and practically favoured the creation of a theocratically-governed Muslim State. His first important work, *The Secrets of Self*, was translated by Professor Nicholson of Cambridge, and Iqbal was knighted in recognition of his work as a philosopher and a poet. Although he took part in politics and at the Allahabad Session of the Muslim League, in 1930, stated unequivocally that he would like the Punjab, the North West Frontier Province, Sind and Baluchistan amalgamated into a consolidated North-West Indian Muslim State, his chief interests in life were intellectual and cultural rather than political. As occasion arose, from time to time, he alternately criticised severely the policy of the Congress and the Muslim League. Dr. Sinha has stated that Iqbal's books do not give a correct impression of the man who was less of a communalist in his private life than he was in his books.

III

It is noteworthy that Iqbal came first into prominence by a poem which has been called THE NATIONAL ANTHEM OF INDIA. He started writing in Urdu ; and Dr. Sinha, and authorities like Sir Tej Bahadur Sapru, think that his best work was in Urdu and not in Persian which he chose as his vehicle in later years. In his poem on the HIMALAYAS, he goes so far as to say :

" The mountain of Sinai was only the scene of a temporary manifestation to Moses who conversed with God
But thou art an illumination throughout for every observing eye "

and, in the Anthem, to which reference has been made, the following lines occur :

" Religion does not teach people to bear enmity to one another ;
We are Indians and India is our motherland,
Greece and Egypt and Rome—all have been obliterated from the world,
But our name and mark are still there.
There is a reason why our existence is not wiped out,
Though the revolutions of time have been inimical to us for centuries together."

He wrote a poem on RAMA, and on SWAMI RAMTIRTH, who deliberately sought union with the Infinite by drowning himself ; and finally he composed verses entitled NAYA SHIVALA (NEW TEMPLE). This poem was written at a time when the Hindu-Muslim relations were strained and the following lines are worth quoting as illustrative of the catholicity of his view during the early years of his poetical career :

" Come, let us lift up together the veils of strangeness once again,
Let us reconcile the separated ones once again, and erase marks of dualism.
The heart's abode is lying desolate for a long time past
Come, and let us build a new temple in this land,
Let our holy temple be the highest amongst the world's holy places.
Let us raise its spire so high as to touch the sky."

So strong was the poet's disgust with the communal life in the country that in a poem VOICE OF ANGUISH, he expressed his desire to leave the country for good.

" What to talk of unity, here the very nearness is the cause of disunity
My countrymen have forgotten the secrets of love.
That is why they are not suited for the battle-field of existence
Instead of oneness, the separation is extremely galling."

IV

Very soon thereafter, the new phase of Iqbal's mentality became evident. Dr. Sinha's analysis of Iqbal's mental development, from the time of his return from Europe to the period when in his *Reconstruction of Religious Thought in Islam*, he pleaded for pan-Islamism and the non-territorial character of Islam, is penetrating. He began to advocate a return to early Islam, and held that Hindu intellec-

tualism and Islamic Sufism had destroyed the capacity of Muslims for action. Dr. Sinha points out that he was inspired by the vision of a world-wide State in which all Muslims should live in one fraternity, the idea of territorial patriotism and nationalism becoming hateful to him.

Quoting from Sir Ahmad Hussain's article on Islamic mysticism, the author makes it clear that the views of the relation of God and the world vary according to the stress laid on the knowledge-side, the feeling-side and the striving side (the *Guna*, *Bhakti*, and *Karma Yogas* of Hindu philosophy), and that Dr. Iqbal has been less than just to himself in not realising that Islam, like Hinduism, has developed all the three sides, and that Sufism is not inconsistent with Islam. There was a period when Iqbal became a specifically theological poet and took to writing almost exclusively in Persian. He at this period, also began his attack on Hafiz and sung the praise of his Guru, Jalaluddin Rumi. He also became severely critical of Western life and thought and carried on a crusade against civilisation, contending that Western democracy in disguise and discussions in the legislatures, a camauflage of capitalists.

V

In Chapter VI dealing with Iqbal's philosophical background the development of his ideas is divided into three periods during the first of which, his coception of God was as eternal beauty and is described as intrinsically Platonic. In the second period, he became a mystic and almost a pantheist; and finally, under the influence of Bergson and Neitzche, he became an advocate of the philosophy of Change, the eternal purpose being conceived of as nothing but a forward movement in consciousness. And each of these modifications of opinion found their expression in successive volumes of his poems, all of which, however, were distinguished by delicate craftsmanship which, according to the best authorities, was more pronounced in Urdu than in Persian.

Before leaving this aspect of Iqbal's literary and philosophical activity, it may be well to realise what Dr. Sinha is at pains to point out, that Iqbal's devotion to Rumi involved his belief in doctrines which are the antithesis of Sufism. As this distinction is of great importance in the appraisal of Iqbal's work, it may be useful to clarify it. Rumi's conception of God is that just as the intellect rules over a man's body without being part and parcel of it, so the Infinite and

Universal intellect pervades the whole of the Universe without being part and parcel of it. Rumi does not attach much importance to the exact form of worship. On the other hand the Sufi thinker and poet approximate to the Vedanta system, and I take the liberty of quoting from a great Sufi mystical poet, who has not been referred to even in the encyclopaedic Appendix of Dr. Sinha—I advert to Nuruddin Abdur Rahman Jami who, in his SALAMAN AND ABSAL sings as follows :

"Thou movest under all the Forms of Truth,
Under the Forms of all Created Things ;
Look whence I will, still nothing I discern
But Thee in all the Universe, in which
Thyself Thou dost invest, and through the Eyes
Of Man, the subtle Censor Scrutinise.
No Entrance finds—no Word of THIS AND THAT :
Do Thou my separate and Derived Self
Make One with thy Essential : Leave me room,
On that Divan which leaves no room for Two."

The so-called ten states of Sufism are paraphrases or modifications of the mental and psychological states postulated in the Vedanta. In the language of a notable exponent, Sufism means that God makes thee die to thyself and alive in him. Such a creed did not accord with the later temperament of Iqbal, and it was no wonder that he was a fierce opponent of Sufism in all its forms.

VI

It is one of the remarkable things about this book that Dr. Sinha, although greatly attracted by the personality of Iqbal and his poetry, is able to speak with considerable detachment. He, indeed, says that Iqbal may have written the poetry of Universality, but has produced instead dogmatic literature. His comparison of Iqbal with Dante and Milton is revealing, and demonstrates the author's wide scholarship and comprehension. Similarly, in speaking of Iqbal's political activities and his opposition to nationalism, which Iqbal denounces in all its forms, he shows that the poet rejects all modern political systems and upholds the early Islamic polity as against Imperialism, Bolshevism, and Nationalism. Dr. Sinha, in an exhaustive analysis, endeavours to prove that Iqbal's ideal has not been kept in view in Turkey or Arabia, and refers to the Arab League and proves that it is non-religious and secular, and that Iqbal's basic

sentiment was therefore not shared by latte-rday Muslim statesman. Iqbal fell foul with the League of Nations, spoke of it as an instance of selfish design and machinations, and termed it an organisation of thieves sitting in a graveyard for the distribution of shrouds. He remarked that Nationalism was a cloak for capitalists to play their game undetected. He reproached modern democracy as representing nothing but the oppression of the poor by the rich under the guise of commercialism.

Dr. Sinha has dealt with a posthumous work of Iqbal which he described as passionate revolt against the civilisation of the West, the irreligiousness of the present age, the orthodoxy of the Brahmin, and similar matters. At the same time, in that work occurs the following message to humanity :

" Art thou in the stage of " Life," " death " or " death-in-life "
Invoke the aid of three witnesses to verify the " Station "
The first witness is thine own consciousness,
The second witness is the consciousness of another Ego,
The third witness is God's consciousness :"

In a chapter distinguished by trenchant criticism, Dr. Sinha analyses the popularity of Iqbal and his legacy, and expresses his view that Iqbal was less than just to his own genius in that he reacted too strongly to mass psychology. In a chapter dealing with non-Muslim reaction to Iqbal, Dr. Sinha says that notwithstanding his early sense of patriotism, he had no real attachment for India, and that prejudice against Dr. Iqbal by Hindus is not wholly unjustified.

VII

Perusing the volume under review, one can see the progressive changes in the mental attitude of Iqbal, and the result of what Dr. Sinha calls the mental obsession on the subject of Kufr (infidelity) versus Islam, and the apprehension that Islam may disappear as a potent force in the world against the rising tide of nationalism. So far did Iqbal go that he deprecated the growth and expansion of liberalism in Turkey. Dr. Sinha's grievance against Iqbal, as a poet, is that instead of giving the right lead to his people, he mistook his vocation and failed to note that a true poet belongs to no community. In the course of a very acute summing-up of Iqbal's influence, Dr. Sinha observes that he is an important thinker from the point of view of mass psychology. He saw only one side of a thing, but he declared and emphasised that one side vigorously. Quoting from W. C. Smith,

Dr. Sinha asserts that Iqbal is great because he said what his followers were vaguely beginning to feel. Having said all this Dr. Sinha concludes by paying a glowing tribute to some of the messages embodied in Iqbal's poems. According to him, they placed action in the forefront of human activities, in the sense that he preached that life is not to be merely contemplative but to be assertive; that is, to be lived passionately, and strenuously, since the goal of mankind is to strive for supremacy in preference to submission.

Prefixed and appended to Dr. Sinha's own contribution, there are certain appraisals by Dr. Sir Tej Bahadur Sapru, Dr. Amarnath Jha, and Mirza Samiullah Beg, and a very acute analysis by Sir Ahmad Hussain (Nawab Amin Jung Bahadur) which displays wonderful liberalism and truly religious feeling. Taking the volume by and large, it constitutes a notable piece of criticism. It chronicles a special phase in literary and national thought. It places in proper perspective the work of one whose mental transformations and political achievements took a line different from those of many of his literary confrères and countrymen. To deal so justly and so sympathetically with the work of one with whose main tenets one disagrees, is to afford proof of a fairness and a sense of justice which are as rare as they are refreshing. And in addition to these rare qualities, Dr. Sinha wears his scholarship as a light mantle. To encyclopaedic learning, he unites a gift of discerning criticism, and we are grateful to him for a stimulating study of a true poet as well as of a temperament and an epoch.

Miscellany

PROFESSOR BENOY SARKAR

A YEAR OF COAL NATIONALISATION IN ENGLAND

The most impressive thing about the coalmines today is the single-minded enthusiasm of technicians and officials for their work, says the special correspondent of the *Manchester Guardian* in the issue of January 31, 1948. Nearly all are converts from private enterprise, but they are prepared to be loyal to any system promising to bring the mines up to full efficiency.

Before nationalisation their schemes were often cramped by the smallness of the undertaking they served. Now they can pool resources and ideas, think in terms of centralised development and at area level evolve schemes for divisional consideration. The price to be paid for a wider scope in the division's right to adjust their schemes according to national plans and requirements, but the staffs accept this penalty with a rueful sense of its justice.

Another striking feature is the anomalies within each pit. One can leave a surface laid out like a country estate and find a joy loader working efficiently at the coalface only to be confronted by small tubs hauled by rope and pony because the haulage roads are too steep for locomotives. Or, disappointed by inadequate surface equipment installed in 1860, one can be encouraged by a high rate of production.

From the railway between Edinburgh and Doncaster one sees a number of collieries flying weather-beaten Union-Jacks showing that they consistently beat their production targets. Officials are shy of making hard forecasts about future output. Nearly seventy drift-mining projects are in hand. By the end of 1949 they should yield some 4,000,000 tons a year, for draft-mines are quickly developed and yield a high output per man-shift for low costs. One at Benarty gives 2,000 tons a week and employs 150 men underground. Its surface gear is scanty and does not constitute an eyesore.

In many divisions labour is concentrated in the areas that are now least productive and big transfers are planned. In Yorkshire much coal has yet to be tapped, but while only half the potential of some of the big pits is exploited it would be folly to think much about new pits. Nearly everywhere man-power is the biggest problem, to which housing and transport contribute. The transfer of workers will depend largely upon priorities for houses. Yorkshire hopes that its man-power intake will exceed wastage

by 9,000 in 1948. Sixteen pits there are earmarked for reconstruction, the benefit of which should begin to show in two years.

In spite of shortages of raw materials and components the National Coal Board is quickening the rate of mechanization. The number of conveyors to be delivered in the twelve months ending in March is 4,000, double the previous year's figure. The corresponding increase for coal cutters is over 60 per cent, and for power leaders over 40 per cent. The total output cut by machine is 72 per cent, just over 71 per cent is conveyed mechanically at the coalface, and 67 per cent conveyed by gate conveyors to loading points in the main haulage. In all 100,000 tons of coal a week is power-loaded without the use of the shovel.

A result of increased mechanisation is an increased dirt content in coal obtained. Washeries and cleaners have not kept in step with the increased output of dirt. The North-Eastern Division has a 20-year plan to build enough coal preparation plants to cope with the entire output at a cost of several million pounds. By the end of 1948, thirty to forty-five of them should raise Britain's percentage of washed coal from forty-eight to sixty-seven, and the scheme is for groups of collieries to be serviced by centralised plants at the rate of 800 tons an hour. On a short-term basis the erection of small washeries will improve the quality of coal in two to three years.

Cooperation in West Asia

A Regional Meeting for the Near and Middle East was convened at Istambul, Turkey, by the I.L.O. in November, 1947. The Governments of Egypt, Iran, Iraq, the Lebanon, Syria and Turkey were represented. Observers were present from Afghanistan, the United States of America, France, Greece, India, Pakistan and the Union of South Africa. On 28th and 29th November the Meeting adoped a number of resolutions including references to cooperation which are quoted below :

Cooperative Organisation—The encouragement of the creation and development of cooperative societies, including cooperative organisations for the promotion of housing, shall be regarded as an important aim of policy in the Near and Middle Eastern countries and the measures to be taken to this end should include financial assistance from public funds of credit facilities on favourable terms wherever this is appropriate. To this end consideration should be given to :

(*a*) the adoption of adequate legislation concerning cooperative organisations ;

(*b*) the creation of special services to promote and supervise the development of cooperative organisations and to encourage education in Cooperation..

In appropriate cases cooperative organisations should be effectively represented on public boards and agencies directly affecting their interests.

Cooperative organisation should be encouraged as a means of rural reconstruction and of raising the economic and social standard of rural populations. Cooperative organisations may be developed in the Region in various ways and use may be made of their flexibility and ability to secure for small farmers the same benefits as those resulting from large-scale farming, to perform the variety of functions corresponding to the different economic requirements of the rural populations, such as securing an independent status for the farmer, credit, technical means of production, supply, marketing, establishment of accessory occupations and incomes, insurance, equipment of the rural community. Appropriate legislation should be introduced, where it does not already exist, to promote a sound cooperative movement to grant credit and other facilities and to create adequate machinery for assisting, guiding and supervising its operations. The Meeting requests the Governing Body of the International Labour Office to arrange for technical advice and assistance in cooperative methods to be made available to the countries of the Region.

Small-scale Industries—The poverty of the peasant partly arises from his idleness during certain months of the year when his earnings are insignificant. This poverty can be alleviated through the development of small-scale rural industries which provide supplementary income. The countries of the Near and Middle East, while creating their basic industries, should maintain and develop these small undertakings and producing units which can easily adapt themselves to the circumstances of time and place and constitute sound factors in production, capable of giving new life and energy to the rural centres of population. Encouragement should be given in this connection to the organisation of cooperative credit, marketing and purchase of raw materials.

Full consideration should be given to the development of production on a small-scale basis, providing part-time occupation for agricultural workers during slack periods, as well as full-time employment to other workers. For this purpose, the setting up of cooperative organisations of producers should be encouraged. Such organisations could, among other duties, assist in the collective purchase and distribution of the raw materials required and in the marketing of the product, provide credit at as low rates of interest as possible, advise on methods of production and provide for the extension of the use of simple tools and machinery adapted to small-scale or home production.

Credit—The farmers should be protected from usurers by legislation, by provision of financial facilities and promotion of a cooperative move-

ment which would replace the usurer as intermediary for marketing and provision of supplies.

Insurance—Among the income risks which are usually covered by social insurance, those which it would seem most practicable to cover in the case of farmers are serious injury and death which are of accidental origin, and the risk of premature death from any cause. Consideration should be given to the possibility of organising mutual insurance against these risks, with special reference to the utilisation of cooperative societies as agencies.

Round the World

Czech Revolution—

Events moved swiftly in Czechoslovakia in February last. Ministers belonging to several non-communist parties withdrew from the Cabinet which was a coalition one and which was headed by M. Gottwald, the communist leader. The withdrawing Ministers had evidently expected that their secession would lead to the reconstitution of the Cabinet in which the Communists would no longer have a dominating voice. But the upshot was entirely different from what they had hoped for. Gottwald did not resign but filled the vacancies by men in whom he and his party had full and implicit confidence. The only outstanding non-communist who remained in the Cabinet was Jan Masaryk, the Foreign Minister. The son of the late Founder-President, Thomas Garrigue Masaryk, the Foreign Minister had a name to conjure with. His reputation as a Czech patriot and as a man of considerable diplomatic experience was also immense. His continuance in the Cabinet after secession of all his former party colleagues and friends was as embarrassing to them as it was helpful to the Government which was now otherwise wholly Communist in character and personnel. On March 10, however, he was reported to have committed suicide by jumping through the window of his room. It was a tragedy which brought an end to a diplomatic and political career which was rich with experience and fruitful of excellent results for his country. But it has helped in clarifying the situation which was confused by his cooperation with a Government, representing ideals not in the least consonant with the liberal traditions embodied in the Masaryk family.

What really happened after the withdrawal of the non-communist Ministers from the Cabinet was a communist coup d'etat. It should be remembered that in the elections of 1946 the Communists secured 38 per cent of the votes. They were the strongest party in the Assembly but had not a majority on their side. It might, therefore, be expected that in a trial of strength they would be thrown out by the legislature. Actually, however, when the vacancies in the Cabinet were filled by Gottwald by his own supporters and the reconstituted Government approached the Assembly for confidence, it was readily available with only few dissentients. The fact was that the Ministry of the Interior had been already in the hands of the Communists and other crucial departments also came under their control with the secession of non-communist elements from the Government. With these points of vantage under their authority, it was possible

for the Communist Party to cow down those who had not hitherto seen eye to eye with them. People who had suffered so much under Nazi tyranny since 1938 might naturally be unwilling to court fresh troubles by opposing what they regarded as a fait accompli. Only those who were ardent in their opposition or had compromised themselves too much were not reconciled to the revolution which was so easily brought about. Many of them fled away from the country and preferred a life of exile to what they considered serfdom under the communist rod.

What has happened to Czechoslovakia may appear galling to the democracies of Europe and America, but it came in the nature of things. It is true that of all the successor states in central and eastern Europe Czechoslovakia experimented most successfully a liberal democratic government. Recognised as an independent state in 1918 Czechoslovakia adopted later under the inspiration and leadership of such men as Thomas Garrigue Masaryk and Eduard Benes a constitution modelled on that of France. During the inter-war years there were many problems, difficult and intricate, which confronted the Government *e.g.*, relations between the Czechs and Slovaks, the relations between the Slavs and Germans, boundary disputes with neighbouring states. But before the attitude of Nazi Germany took a menacing form in 1938, none of these problems could undermine the liberal democratic traditions which the state was gradually building up. Masaryk and his advisers tried to attack all the problems which faced them in the democratic way. Even when Masaryk retired and then died, his successor as President, M. Benes, stuck unflinchingly to these traditions of a liberal parliamentary republic. Nor was admiration lacking in the west for this successful experiment of democracy in the Bohemian heights. France which had particularly supplied inspiration to the makers and leaders of Czechoslovakia even entered for strategic reasons into a treaty with this country. But when the zero hour arrived, when from the wooden horse of Sudeten territories came out the armed bands and when they were followed by the onrush of Nazi legions, Chamberlain knew not Czechoslovakia and persuaded France also not to honour the obligations of her treaty. A country of fifteen million people, three of which were in open revolt, could not even think of defence without external help.

But left in the lurch by the west, Czechoslovakia received both encouragement and offer of active help from the Soviet Union. If the advisers of Benes would dare to resist not only the hordes of Hitler but the demoralising advice of Chamberlain and Daladier, they would receive military help from Moscow. But large agricultural proprietors and industrial capitalists opposed resistance to Nazis with only Soviet assistance. They evidently feared that not only this assistance might not be sufficient to stop Hitler but it might be otherwise embarrassing. It might help in the infiltration of communism into their country. So there was greater and

more spontaneous response to the siren voice of Chamberlain and Runciman than to the sturdy offer from Moscow. Surrender to Hitler was decided upon. But, as it was proved six months later, this surrender to the Nazis and the cession of the Sudeten land to Germany did not avail anything. On the 15th of March, 1939, the remaining portion of Czechoslovakia was occupied by Hitler's agents and Hacha became a German stooge.

When Great Britain and France declared war on Germany after the latter's invasion of Poland, Benes and his coadjutors who were already in London formed a Czechoslovak Government in exile and cooperated wholeheartedly with the allies in the conduct of the war against Germany. It must be borne in mind that the Soviet Union was out of the war until the middle of 1941 and consequently during this period there was no question of these Czech leaders cooperating with Moscow. But when at last Germany was constrained to fight on two fronts, Benes and his colleagues had to look round and decide what they were to do. They knew that while their country was near to and practically within the orbit of influence of the vast and far flung Soviet Union, to the English people it was a distant land to which Anglo-French vision would not extend and Anglo-French imagination might not travel. Chamberlain had said so in so many words, and in the future also other British and French statesmen might repeat the words in a critical hour. On the other hand there should be a relation of intimacy between the Czechs and the Russians. They were neighbours, they were both Slav, their interests were common in so far as both regarded Germany as their mortal enemy. Assistance, both military and economic, might again come more easily and more steadily from the Soviet Union than from the West. Then why should not Benes and his colleagues transfer their headquarters to the Soviet capital and enter into a closer relationship with the Soviet Government?

Actually the Czech Government in exile transferred itself to Russia in 1943 and a treaty was signed between the two Governments in that year. It is true that when in 1945 Czechoslovakia was liberated from German control and Benes and his colleagues returned to their own country, the Soviet Government did not insist either on the incorporation of that country in the Soviet Union or even on the constitution of a communist government there. It should be remembered in this connection that although the efforts of the leaders in exile were great and their contributions to the ultimate victory were considerable, people who remained in their country also made almost superhuman efforts to sabotage Nazi rule and liberate their country from Nazi tyranny. In this regard while all classes of people proved patriotic, it was the communist element which undertook leadership in many fronts. But it was not the policy of the Soviet Union to insist in that hour on the establishment of Soviet rule among the Czechs and Slovaks. It was satisfied with the incorporation of Ruthenia in its

territories and with the setting up of a friendly government in the rest of former Czechoslovakia.

Gradually, however, opinion hardened as much on the Soviet side as on the non-communist side in Czechoslovakia. Soviet Union would tolerate participation of non-communist elements in the government of Czechoslovakia only so long as they would remain fully and frankly reconciled to Soviet domination of its foreign policy. But last year when Marshall Plan was promulgated and the idea of a conference of those European powers which would accept Marshall aid was mooted, the Czechoslovak government accepted the invitation to that conference. This was gall and worm wood to Moscow which saw nothing but anti-sovietism in the Marshall Plan and which regarded the Conference only as an attempt at organising an anti-soviet bloc in Europe. Moscow, therefore, reacted violently against the decision of Czechoslovak government, which had no alternative but to eat what it had said and go back upon what it had decided. But the incident left a bitter taste in the mouth both of Moscow and Prague. The former was chagrined that Czech statesmen might think of collaborating with the anti-soviet powers and the latter was chagrined that Moscow would not allow it to go forth under its own sails. This bitterness was increased further on the Soviet side by what happened in connection with an attempt " to collate their (socialist-communist) policy within the Government."

Gottwald was then, as now, the Prime Minister and the leader of the Communist group and Zdenek Fierlinger was the Deputy Prime Minister and the leader of the Social Democrats. Fierlinger had been during the War Czechoslovak Minister in Moscow and had formed the idea that the future of his country lay in close collaboration with the Soviet Union. He had become ardently pro-communist. He knew that most of his colleagues were against fusion of their party in any form with the Communist group. But during the absence of the most influential of them from Prague he entered into a deal with Gottwald as a result of which the two parties were to act thenceforward in unision in the legislature and the government. This created much confusion, and made many socialists indignant, so much so that in November when the Congress of Social Democrats was held Fierlinger was removed from the leadership of the Party and Laushman who was to champion socialist independence was elected in his place. The rift between the Socialists and Communists became naturally wider as a result of these incidents and mutual suspicion inevitably increased. Authorities at Moscow must have felt that they could no longer rely upon a government at Prague which was not wholly communist in principle and policy. But the reaction which has set in in the western world as a result of the coup was not possibly foreseen. Even if it was, the Soviet Union was, it seems, prepared to face it rather than take chances in a country which

it regarded as only a client state with a government upon which it could not wholly rely.

Strength of Russia—

A writer in the Contemporary Review discusses the strength and weakness of Russia which has now become a prospective enemy of the western democracies. " The value of a nation's manpower," he observes, " must be examined under two heads—quantitative and qualitative." Inspite of vast war losses the population of the Soviet Union is at present about 175 million as against 140 million in the U.S.A. and about 73 million people of European stock in the British Empire. Of the 175 million in the Soviet Union seventyfive per cent are Russian. Not only this predominance of one group is helpful in any enterprise but colour bar is singularly absent in the Union and racial prejudices are taboo. This makes the 175 million people a solid unit. The system of government being again totalitarian, it is impossible for fissures to grow and factions to develop.

Industrialisation in the country has no doubt suffered a set-back as a result of the war and even mechanised agriculture has had to give place to more primitive system. But the Russians and more so the other groups of people in the Soviet Union are accustomed to a simple life. Their diet not unoften consists of rye bread and vegetables and their other necessaries are few. Consequently war conditions may not hamper the daily life of the Russian people as much as they may dislocate life in a western democracy. It should also be remembered that the country is vast and far flung and has the great advantages of dispersion and depth. For purposes of defence this is certainly a great source of strength which is further reinforced by the potential self-sufficiency of the Union. The fighting machine which the Soviet Union has built up should not also be ignored in this connection The Russians have always been good fighters. This tradition has not only been maintained but further strengthened.

Reviews and Notices of Books

The Man, Gandhi. By G. Ramachandran, published by the Gandhi Era Publications, Madras. Price Re. 1-4. Pages 79.

Being an enigmatic and many sided figure, Mahatmaji is in a way many things to many men. Whether he will live in history as Buddha, Socrates or Christ, ascetic, martyr or revolutionary, is not an easy thing to predict. There is no doubt, however, that he is the architect of Modern India. In a hate-ridden and groaning world he has all along kept aloft the Torch of Truth and has always insisted on the surpremacy of the Law of Love. There is no end to books on or about Gandhiji as the Father of the Indian Nation or as the Saviour of humanity, but there is a deplorable dearth of really good books on Gandhi—the Man. The one written by Millie Graham Polak some years ago makes fascinating reading and the latest brochure —" the Man, Gandhi," by G. Ramachandran is, perhaps, the second venture in an almost untilled field. Sir S. Radhakrishnan has written an Introduction to it.

The General Editor of the Gandhi Era publications, Mrs. Dakshayani Velayudhan correctly remarks, " What is above time is not the ethic of Gandhi but his passion for the human element and that the supreme note is his life is the note of the human heart."

Several pages of the pamphlet have been devoted to the discussion as to whether Gandhiji is of the East or of the West. Interesting comparison has been made between Tagore and Gandhi as well as between Nehru and Gandhi. The talented author is so much obsessed with politics that he has been guilty unconsciously of doing imperfect justice to the human side of the Mahatma, on which volumes can be easily written. For instance, " One could scarcely talk with him (Gandhiji) for a few minutes without his cracking some neat joke or other and his bursting into uproarious laughter, " could be illustrated by examples almost innumerable. Again, " One of the secrets of Gandhiji's perpetual youthfulness is that he surrounds himself wherever possible with little girls and boys with whom he himself is free with the freedom of Childhood," could be developed at greater length. It is not too much to remark that before writing on " the Man, Gandhi," one has got to be a good mental hygienist and Mr. Ramachandran is anything but a real psychologist.

NEW DELHI — PROF. ABDUL MAJID KHAN

Tricolour Shall Fly Over Hyderabad. By Dr. Raj Bahadur Gour, Price Annas Twelve. Pages 60. Published by the People's Publishing House, Ltd., Bombay.

There is no doubt about it that most of the rulers of the Indian States have so far been stooges of British Imperialism because the States came into existence due to a peculiarly reactionary policy pursued by the Britishers. The British Empire in India has been liquidated under the very cigar of Mr. Churchill and some of the enlightened and progressive Princes after correctly and carefully reading the signs of the times have decided to join the Indian Union. In a way, His Exalted Highness the Nizam of Hyderabad is still shilly-shallying, and this wavering and vacillating attitude is calculated to do more harm than good to his State in days to come.

Till now, as a rule the Civil Liberties in the Indian States have been ruthlessly suppressed and the press has been effectively gagged. The outside world knows practically nothing of what is going on inside the pockets of British Imperialism known as the feudatory States. At least so far as Hyderabad is concerned people know very little of the strains and stresses ; trials, and tribulations which the inhabitants of Hyderabad have undergone and faced in order to liberalize and democratise the utterly outworn and medieval administration that obtains there. The pamphlet under review " Tricolour Shall Fly Over Hyderabad," is a timely publication. It is packed with a lot of useful information. If the facts and figures given in it are correct and reliable, the arguments for mending or ending the reactionary regime there become irrefutable. The author has no particular animus against the personality of His Exalted Highness the Nizam, who appears to be surrounded by bad advisers. The brochure constitutes a terrible indictment against the system that is in vogue there.

Let alone the endless tale of woes that are being experienced by the people of Hyderabad in almost every sphere of life and in every walk of activity. Just take one instance, " There is no Public Health Organization worth the name. There are a total number of 150 hospitals in the entire Dominion (which contains 170 million people). There is no arrangement for adequate medical aid to workers in big concerns and no aid at all in the rest. Infant mortality is higher than in any part of India. There are very few Maternity Welfare Centres, fewer than in most other States like Mysore. Whatever exist are limited to the metropolis."

Such a state of affairs is altogether intolerable. Food, Clothing, Shelter and Health are by common consent the basic necessities of human beings throughout the world. If Hyderabad is not to wallow in the quagmire of medievalism and feudalism, it cannot but accede to the Indian Union. To all those who are keen to have a clear picture of the struggle of the people of Hyderabad, this pamphlet is indispensible.

NEW DELHI PROF. ABDUL MAJID KHAN

Ourselves

The Late Professor B. M. Barua

We regret to announce the death of the late Professor Beni Madhab Barua, which occurred in the early morning of the 24th March last. A distinguished alumnus of this University, Dr. Barua was enabled by a State Scholarship to finish his studies in the University of London which admitted him to the Degree of Doctor of Literature. Appointed a Post-Graduate Lecturer in 1917, Dr. Barua was later raised to a Professorship and became the head of the Pali Department of the University, where his long career, spread over thirty years, was marked by great enthusiasm for our ancient history and civilisation and constant activity in unfolding them not only to the world of scholars and specialists but to that increasing number of lay men who now take an interest in India's past. Professor Barua in fact lived a life dedicated to the acquisition of knowledge regarding that age which Buddha's teachings so enriched and made so fruitful and to the interpretation of that knowledge for the benefit of the world. Let others reap where he had sown.

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The University and Health Congress of Harrogate

The next Health Congress arranged by the Royal Sanitary Institute, London, will be held at Harrogate from 24th to 28th May, 1948. The University will be represented in the Conference by Dr. K. Bhattacharyya.

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Department of Radio Physics and Electronics

A department for Post-Graduate studies in Radio Physics and Electronics has been set up by the University and a Board of Higher Studeis has been constituted for the purpose.

Official Notifications, University of Calcutta

Orders by the Vice-Chancellor and Syndicate of the University of Calcutta

Notification No. R.8

It is hereby notified for general information that Government has sanctioned the ollowing changes in Chapters XXXV and XXXVI of the University Regulations relating to the I.Sc. and B.Sc. Examinations.

In Section 9, Chapter XXXV (I.Sc. Examination) and Section 7, Chapter XXXVI (B.Sc. Examination), the words 'Mathematics or Geography' in paragraph 1 be replaced by the words 'Mathematics, Geography or Physiology.'

B. B. DUTT,
Registrar.

Notification No. C/5155/Affl.

It is notified for general information that under Section 21 of the Indian Universities Act, 1904 (VIII of 1904), the Governor is pleased to order that with effect from the commencement of the session 1947-48, the Basirhat College, 24-Parganas, shall be affiliated to the Calcutta University in English, Bengali (Vernacular, Alternative Vernacular), Sanskrit, Persian, History, Logic, Elements of Civics and Economics, Mathematics, Commercial Geography and Commercial Arithmetic and Elements of Book-keeping to the Intermediate Arts standard with permission to present candidates at the examination in those subjects from 1949 and not earlier.

SATIS C. GHOSH,
Registrar.

Notification No. C/5152/Affl.

It is notified for general information that under Section 21 of the Indian Universities Act 1904 (VIII of 1904), the Governor is pleased to order that with effect from the commencement of the session 1947-48 the Subhas Institute of Culture, Calcutta shall be affiliated to the Calcutta University in English, Bengali, Sanskrit, Alternative Bengali, Logic, History, Elements of Civics and Economics, Mathematics, Commercial Geography and Commercial Arithmetic and Elements of Book-keeping to the Intermediate Arts standard and in English, Bengali, Sanskrit, Alternative Bengali, Philosophy, History, Political Economy, Political Philosophy and Mathematics to the B.A. (Pass) standard with permission to present candidates at the examinations in these subjects from 1949 and not earlier.

SATIS C. GHOSH,
Registrar.

THE
CALCUTTA REVIEW

DECEMBER, 1947

ENGLISH AND INDIA

K. LAHIRI

P.-G. Department, Calcutta University

WORLD history does not record any great war waged to impose a language on the speakers of another. Indeed, paramount though it is as a vehicle of communication in human society, its importance in national life has been less obvious than those of religion and politics. In the past, a change in the language of masses of people was caused either by religious conversion, such as the spread of Arabic along with Islam in North Africa, Mesopotamia, and Persia ; or through transfer of political power, as the vogue of French in England following the Norman conquest. Only in comparatively recent times the value of language as a factor in self-determination of states has been recognised, and governments have consciously pursued definite linguistic policies.

Such a crusade against English seems to have been launched in India at the present moment. The provincial governments of U.P. and W.B. are already working for the early termination of this foreign language as the officially-sponsored medium of interchange of thoughts in the carrying on of the day-to-day administration of public affairs. The impetus has come from the people themselves. The demand that as the English quit India politically her people should be simultaneously freed from the yoke of their language, has received further support from the feeling that the site is to be cleared for the erection of a lingua franca for the purposes of communication, trade and central administration. In the light of such national aspirations it is easy to understand this violent reaction against English. But

when everybody around is rousing patriotic or racial vanity and appealing to history or tradition, it is difficult to face facts coolly and measure them in figures. In the heated atmosphere of aggressive nationalism it is risky to hold a brief in defence of English, and safer simply to survey its position in our country, to trace how it has come to acquire it, and to feel what place we are prepared to give it in the shape of things to come.

The history of English in India has been its rise to all-pervasive supremacy. It has come to dominate public life in office and school, business and communication, and has fast infiltrated into even social and private spheres. The unique position it enjoys is the result of the complex history of English education in our country. English was introduced about a century and a quarter ago in the Presidencies of Madras, Bombay and Bengal by Munro, Elphinstone, and Bentinck respectively as a temporary measure of expediency. The aim of these official sponsors as well as non-official pioneers like Raja Rammohan and Lord Macaulay was two-fold : " to arrest the rapid decay of literature and arts " in the vernaculars and to initiate this subcontinent to " the principles of democracy through the study of English literature " : a dream of giving the same status to English in India that Latin enjoyed in Europe throughout the Middle Ages. As the result of this consistently progressive policy the language has come to occupy such a dominant place in our educational system : at as early as the primary stage, between the ages 6 and 10 of the learner, English is introduced as a language lesson ; at the secondary stage, between the ages 11 and 16, the course is enlarged, though not as a medium of instruction ; and at college and university it is the sole vehicle of higher studies.

Those who would not like to see this foreign tongue continue in its supremacy a day longer, are enthusiastic in cataloguing a long list of harms that English has done to India. According to them the huge waste of national energy through the accumulation of baneful effects of English on our education and culture is as staggering as the Home charges of England which we have put a stop to. Extremists would go to the length of saying that the introduction of English, synchronizing as it did with the consolidation of British imperial rule has played a great part in the psychological enslavement of a great people and the spiritual raping of their ancient culture. In the early days to speak the " master's " language was considered by Indians as a royal road to success in life. English bore the trade

mark of stately grandeur and perfection, and always left upon the people " the impression, carefully and in a subtle way fostered, that it was the language of a superior race." So they worshipped English at the neglect of their own language and literature and their potentialities as builders of a new social order, and something of that old attitude persisted even in the twentieth century. As late as 1914, when Sir Theodore Morrison read a paper in London, pleading for the replacement of English by Indian vernaculars, one Mr. Tarapore said, " We must not regard English as a foreign tongue, for originally it came from the same stock as our language."

But even the staunchest advocate of English cannot deny the incalculable harm to our educational and thought life. The imposition of this foreign tongue as the vehicle of instruction has not merely added immeasurably to the labour of the learner but tended to lame his mind in its freedom of movement. One evil directly resulting from this artificiality has been to systematically discourage the student to think. He has been an indifferent thinker and therefore a bad writer; he has not been able to master the foreign tongue and he has lost his own. The formative years of an Indian student's life are wasted " in negotiating the niceties of spelling and pronunciation, construction and idiom of one of the most capricious of languages." On an average fifty per cent of the students appearing at University examinations throughout India fail every year. No other country in the world can be accused of such criminal waste. Equally patent is the futility of teaching English literature *en masse*. Indian temperament is fundamentally different from the English. It is grossly stupid and psychologically barbarous to force indiscriminately a mixture of English classics and contemporary literature down the throats of a classful of Indian boys and girls, though these literary beauties floating down the stream of their consciousness, if at all they do so, are not assimilated into their experience. It is pertinent to enquire how many of the students remember anything of English poets and novelists a few years later; all their knowledge vanishes into thin air.....this cramping effect of an artificial medium spreads from student life to the life of the larger social body. The " incursion of English into every sphere has checked free passage of thought and prevented free development of ease and felicity in the use of the mother tongue in intercourses among the Indians themselves."

Now, if English has really inflicted such injury on us, it should be pulled down from the high pedestal on which it has set itself under

the aegis of the British rule, not of course out of any contempt for the language or hatred for the race that speaks it, but simply to allow Indians to use their languages in their own rights, as other nationals use theirs. A distinct body of opinion has grown up in favour of replacing English as the medium of instruction even in colleges. Teachers there, who are accustomed for years to lecture in English, may find it hard to use the vernaculars instead, but nevertheless will make all possible efforts to adjust themselves to new conditions.

But to devise means for sweeping English out of this subcontinent in much too haste is not only indecent but something we cannot afford to do. "It is neither possible nor desirable to subject the Indian universities and the higher and specialized branches of learning to a sudden and violent jerk. They may find it too difficult to bear the strain psychologically and in an academic way."

History bears ample illustrations where even after the termination of the political domination of one nation over another the foreign language was dropped only gradually to make the transition smooth, and even, in some cases, retained for practical advantages. In Persia, on the cessation of Arabian domination after 1000 A.D., Arabic which had been supreme so far gradually declined. In England, Norman-French which had been the language of administration and culture for long after the Battle of Hastings was dropped slowly in favour of Latin at the Renaissance, to be ultimately replaced by the vernacular. In recent times, in South Africa, though Dutch Colonal power is no more, Afrikaans, a local variant of the language of Holland, has continued as the language of the state and the people. West Africa presents an interesting example of linguistic inertia contrasted with its political transitions and racial diversity. Taken over by Britain from Germany after the World War I, the country has a mixed population consisting of Germans, other Europeans, natives, and Euro-Africans; but the language used is predominantly Afrikaans. So in Canada French is still the medium of instruction in more than half the dominion and the official language throughout. In Ireland, political and religious divergences have complicated linguistic tendencies. As the English rulers had deliberately tried to suppress the native language, since the establishment of Saorstat Eirenn in 1921 national sentiments have been roused in favour of Erse. But this patriotic bias has not reduced the general knowledge of English among the people, but has promoted the simultaneous use and encouragement of both the languages. In Malta, on the attain-

ment of full responsible government in 1945, both English and Maltese have been accepted as official languages : English as the language of administration and Maltese as the language of the law courts. Still provision has been made for the use of English in a legal proceeding where any party does not speak Maltese as the principal language, as there are many Italians in Malta.

Most of the above analogies, it may be argued, are not quite applicable to India. In most cases the ruled were not racially far different from the rulers : Persians from Arabians, the Irish from the English, Philippinos from Americans. Ethnically Indians have no such affinity with the English. The only close parallels are the native Africans using Dutch, the Maltese using English, and the Jews in Palestine using English. A precedent of the rulers' language lingering long after the expiry of their rule can be found here in India. Even after the fall of the Moghuls Persian long continued to be the language of India, both in education and in administration. In schools it continued up to the thirties of the last century when English was introduced, and in the courts till the transfer of power from the hands of the East India Company and abolition of the Supreme Court in 1858, that is, one hundrede years after Plassey.

A brief statistical survey of the position of English in different parts of the British Empire in Europe, America, Africa, and Asia will not be irrelevant here. In Wales, only Welsh is spoken by 3% of the people, Welsh and English by 32%, and only English by the rest. In Scotland, 0.15% speak only Gaelic, 2.7% Gaelic and English, and the rest only English. In Ireland, 6% speak only Erse, 22.4% Erse and English, and the rest only English. In Cyprus, with a population of Greeks, Turkish, and Armenian nationals, the official languages are Greek, Turkish, and English. Canada's population consists of 47% British, 30% French, and the rest other Europeans and natives. Of these 45% speak English and 40% French. In Trinidad, the population is composed of English, French, Spanish, Portuguese, Africans and East Indians. English is the official and popular language throughout. In South Africa, the land of fusion of races and confusion of tongues, the languages found are English, Dutch and Amharic, a tongue of ancient Semetic origin in Ethiopia. The official and people's languages are both English and Afrikaans, which latter claims at least 46% of the people exclusively. In Transvaal, with a population of 22% Europeans and the rest natives, the medium of instruction is the home language of thel earner, English

or Afrikaans, the other being taught at the parent's option after the fourth standard. In Orange Free State, both English and Afrikaans are taught to students : first the home language, and then the other, introduced gradually. In Palestine, with a population of 53% Muslims, 40% Jews, and 7% Christians, the official languages are English, Arabic and Hebrew. In Aden, as many as five languages—English, Arabic, Hebrew, Urdu, Gujrati—are media of instruction. In Iraq, Arabic is the chief language ; English and French are auxiliary tongues. Burma's population is composed of Burmans, Karens, Shans, Chins, Kachins, Chinese, Indians, Europeans, Indo-Burmans, and Anglo-Burmans ; the official languages are English, Burmese and Chinese. In Malay, with a population of 25% Malayans, 10% Indians, and the rest Chinese, vernacular education in Malay is given to the natives, and education to other nationals in English. In the Federate l Malay States, Malay, Chinese and Tamil are taught in different chools, and English all through. In New Zealand, with a population of 55% Maoris and the rest natives and European Colonizers, the languages accepted are both Maori and English.

Such being the position of English in the British Commonwealth of Nations of which India is still a member, the process of liquidation of English in different spheres of Indian life should be slowed down for healthy readjustment, and the question of retaining it in certain fields seriously considered. If it is to be given any place in India today, it is not for the benefits, real or imagined, which English, according to the fantastic claims of its recent advocates, have conferred on us. Admitted that English has helped the unification of India's infinite varieties of caste, religion, and culture, and evolved a sort of homogeneity among the provinces, races, and communities. At present a Sindhi, a Punjabi, a Bengali, and a Madrasi can exchange their views only through one language, English. But to aver that English has awakened India and engendered her national movement is to belittle our national movement itself. So long as it was confined to the English educated sections who constitute no more than two per cent of the people, it was essentially weak, and the movement became irresistible only when it spread to the masses, among whom the foreign language could play no part. In the same manner, while not minimizing the achievements of Indian masters of English—like Surendranath, Rabindranath, and Radhakrishnan ; Sarojini, Gandhi, and Jawaharlal—who have spoken and written " English which is at once the envy and despair of Englishmen them-

selves," we must realize that their primary aim was to contribute to politics, philosophy, and literature; and if they incidentally produced fine English the greater was their achievement. And what, after all, is the value of the literary products in English of Tagore, Naidu, Toru Dutt and Hārindra? They have not been even mentioned in standard histories of English literature; "They have not won and cannot win recognition in the hands of the best English critics."

If English is at all to be retained in India it will be for its concrete and practical utilities in facilitating the conduct of our day-to-day existence and in nourishing the growth of the broader cultural life of the nation. First, English, towards which no provincial jealousy is cherished, is the only language within their reach which can bring the remote and conflicting population-groups of India closer to one another. For good or ill, it is already the interprovincial language, and the provincial entente so nicely fostered by it is in danger of being snapped in the present clash among the zonal languages for all-India supremacy.

In the administration of the central government, though Home Affairs and allied Departments confined to activities within the country may well be conducted in indigenous languages, the Foreign Office with its far-flung ambassadorial establishments and allied Departments like commerce with international contacts and obligations must necessarily be run in English. English will also certainly remain a suitable common language for communication and transport and hence of business and trade, both inland and foreign, for a long time to come, for certain well-established systems of practical advantages, like Morse and other codes of telegraphy and signalling, Pitman, Gregg, and such methods of shorthand, and so on. The distribution of news, for instance, to consider one instrument of communication, is to be long maintained in English. The main news coverage here is by Reuter, its Indian organization A.P.I., the Indian-owned U.P.I., and the special correspondents of the leading papers: all of whom distribute news in English. The result is that though the vernacular press is fast growing up, with the *Anandabazar Patrika's* claimed circulation of 66,000, the most powerful section is still represented by English: as many as some 50 in number, with an average circulation of 60,000 each.

In the educational sphere, too, English should be retained as a competent medium for higher studies in arts and sciences. While

the teachers adjust themselves to imparting instruction in the class-room, even a study of Shakespeare, in the mother tongue of the learners, " the medium of a vital part of the student's personal study in the library has to be a world tongue, and there is no reason why it should not continue to be English." Also to encourage " the production in Indian languages of works of high quality and comprehensive range, a continuous process of translations from foreign literatures has to be maintained; for which a high level of proficiency in English will be indispensable."

But the greatest utility of English will be as a medium for maintaining and expanding India's cultural contact with the rest of the world. English is the mother tongue of 200 million people, and the expanding administrative or auxiliary language of another 500 million ; and sheer financial reasons will lead to its still rapid expansion in the near future. It is, in fact, understood by four-fifths of the world's population. Hence to banish English from India will mean isolating her from the main current of western civilization, with which it is our chief link. In sheer self-preservation we have to keep pace with the march of events and growth of thoughts through this language. To oust English from the land will be to impoverish our intellectual life ; to retain it will be to maintain the flow of stimulus and nourishment from a warm contact with western culture. What is more, ' English will give Indians what they never had before in their history : a way to the other great civilizations of Asia " from Arabia and Iran to Japan, China, and Indonesia. The dream of an Asiatic League of Nations or the development of a Co-prosperity Zone of South-East Asia, can be realised only through this European language, as was evident from the deliberations of the last Asian Relations Conference.

To consider one mode of cultural expression, literature, the deep and pervasive influence of English, and through it of continental literatures, which has so far enriched the vernacular literatures of India—Bengali, Hindi, Urdu, Tamil, Marathi, Gujrati—is worth keeping up. " One living literature can stimulate another. Tagore gained from English certain qualities of style which he could not have gained from, say, Hindi." And this cultural flow is to be maintained in both directions. Not only English brings the world to our doors, but it renders easier of access to the rest of mankind India's thought, national personality, and message of the soul. England, even quicker than India, realises the significance of the change brought about by the voluntary liquidation of her political dominance, and loses no

time in strengthening other ties, both material and spiritual, through trade and financial deals like the Sterling Balance negotiations, and by sending out scholars, sportsmen, and artistes, like the Shakespeareana. Should not the Indians on their part advance half-way to receive the hands of good neighbourliness so cordially stretched out to them ?

If retain English we must, the question is : how, where, and to what extent ? To put briefly, in the administration, for the transition period, say, 10 years, English should be retained as one of the official languages along with one or more Indian languages, if only to prevent further fragmentation of the country on linguistic basis, the apprehension of which cannot be ruled out in view of the rising conflicts among quite powerful language groups. Multilingual states are neither absurd nor rare. In the last war Russia " defended herself heroically and printed her communiques in 12 languages ; " little Switzerland " proclaimed the neutrality of her 4 million people in 4 languages."

And in the educational sphere English should be made the compulsory second language, to be introduced somewhere in the middle of the secondary stage. Purging our English syllabus of its present heavy literary bias unsuited for the mass, a more practical course and efficient system of teaching English as a language is to be devised. Something of the nature of Basic English with a small vocabulary of, say, 850 words, as C. K. Ogden would have it, and a simplified grammar, capable of being learnt by an intelligent adult or adolescent in a couple of months, with no literary pretensions, but well-suited to become a universal auxiliary language for intrenational commerce and science, will be quite helpful. For those interested in literature a special course of English classics should be kept apart. In China European languages are taught in secondary schools and colleges ; when a student takes the degree examination he has to pass proficiency test in two European languages, one of these being necessarily English, so that when later in life he comes in contact with the West in politics or trade, he can easily adjust himself, without knowing the technique of Elizabethan stage, Shelley's romanticism or Hopkin's sprung rhythm. When an European language has to be learnt we would naturally prefer English in view of our long association with it which has, for good or ill, deeply entrenched itself in different spheres of our collective and individual existence. So our verdict on English need not be summary disposal of banishment. If at this

moment of happy termination if at all, of our long political connection with the English this one link is preserved, it may lead to new and richer bonds of association in cultural fields; and the language may still play a great rôle in India's national life in the youth and maturity of her independent career, as it did in the childhood and adolescence of colonial tutelage.

MILITARY TRAINING ABROAD

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IN view of the scheme for setting up the National War Academy in India, it will be of interest to study the syllabus and working of service institutions in other countries. In this article a brief survey of some of these institutes is attempted.

UNITED STATES OF AMERICA

United States Military Academy, West Point

In 1776, the Board of War agreed to the proposal of John Adams for the plan of a military academy : the intention was to form a Corps of Invalids whose duties would include the operation of 'a military school for young gentlemen.' General Knox's idea was that the training should be on the lines of the Royal Military College at Woolwich. In 1779, Hamilton suggested a plan for an academy consisting of four schools ; for fundamentals ; for engineers and artillerists ; for cavalry and infantry ; and for the navy. Washington said that the establishment of such an academy 'has ever been considered by me as an object of primary importance to the country.' President Jefferson decided, in 1801, on the immediate establishment of a military school at West Point, and on 16 March, 1802, Congress passed an Act establishing the Military Academy. It was at the start only a small engineering school ; there was no entrance examination and no age limit. In 1812, the Congress re-organized the Academy and enacted that it should consist of the corps of engineers, and professors of French, natural and experimental philosophy, of mathematics and of engineering in all its branches. It was enacted also that the cadets shall at no time exceed two hundred and fifty. The characreristic feature of the West Point training were determined by Thayer who was appointed Superintendent in 1817. The curriculum included mathematics, engineering, natural philosophy, drawing, and French. To these he added chemistry, general history, moral philosophy, law, geography, and ethics. He established a rule of recitation, 'every cadet, every day, in every subject.' He established too, the Honour Code.

The Academy continued to progerss, though naturally it has its periods of neglect and spasms of experiment. When in 1919, Brigadier General Douglas MacArthur became Superintendent, the War Department wished him to consider the desirability of reducing the period of training to three years. (It had been increased to five years in 1854 but had been restored to four in 1861). As a result of his recommendations the Act of 1921 stated that the course of instruction shall be four years. It was then too that the value of the honour system, established by Thayer, was re-emphasized. The Secretary of War writing to the Chairman of the Committee on Military Affairs in the House of Representatives said : " Men may be inexact, or even untruthful in ordinary matters, and suffer as a consequence only the disesteem of their associates, or the inconveniences of unfavourable litigation, but the inexact or untruthful soldier trifles with the lives of his fellowmen, and the honour of his government ; and it is, therefore, no matter of idle pride, but rather of stern disciplinary necessity that makes West Point require of her students a character for trustworthiness which knows no evasions."

After the experience of the War of 1914-18, the Academic Board, which had to plan the curriculum, declared that ' the function of the Military Academy is to give, in addition to that character-building for which it has long been famous, and in addition to the necessary military and physical training, such a combination of basic general and technical education as will provide an adequate foundation for a cadet's subsequent professional career.' There has been a more recent and more detailed statement of the objectives of the Academy. According to the decision of the War Department in 1939 :

> The mission of the United States Military Academy is to produce officers of the Army having the qualities and attributes essential to their progressive and continuing development, throughout their careers as officers and leaders. The mission is accomplished by education and training directed toward the inculcation and development of the requisite moral, mental, physical, and professional qualifications and attributes upon which graduates may build as commissioned officers and readily acquire the technical and professional proficiency commensurate with their duties and responsibilities,
>
> (1) The development of character, high ideals and mentality with particular emphasis upon : high standards of honour

and personal conduct; moral courage; loyalty; devotion to duty; inherent conformity to the will of authority; judgement; force; co-operation; acceptance of responsibility; clear, rapid, analytical thought, leading to logical conclusions; power of expression; application; self-reliance, initiative, and resourcefulness.

(2) The development of physical qualities and attributes including, good health and sound physique; endurance and alertness; co-ordination; military bearing; ability to participate in and to conduct sports; high sense of sportsmanship.

(3) Accomplishment of academic and professional fitness through :

(*a*) a balanced and liberal education in the arts and sciences, embracing knowledge of the social, economic and political history of mankind; basic principles and applications of the mathematical and physical sciences; knowledge and use of English and foreign languages, and appreciation of literature; fundamentals of law.

(*b*) a basic military education embracing military history; theory and application of military art; essentials of leadership; the principles of construction and operation of weapons and equipment; the powers and limitations of the various arms; the principles of organization, maintenance, training and utilization of military forces in peace and war.

(*c*) individual proficiency in soldierly conduct; dress and demeanour; customs of the service; ceremonies; military hygiene; elementary equitation and marksmanship; tactical employment of small units; ability to instruct.

An Act of Congress of 1937 authorized the Superintendent of the Academy to confer the degree of Bachelor of Science upon all graduates of the Academy; this degree is recognized by the Association of American Universities.

West Point provides a high class professional as well as a good general education. The cadets are in academic subjects as well grounded as University undergraduates. Sir Alfred Zimmern said once : ' I have seldom, if ever, encountered a group of students better disciplined intellectually for the study of international politics.' The Academy Library is well-stocked; there are extensive playgrounds; the gymnasium is well-equipped; the laboratories have the most up-to-date apparatus. Camp Popalopen provides a fine summer

officers for command and for staff appointments.' Vacancies at the college are allotted to the provinces in proportion to population. The number of gentlemen cadets attending the college during any year does not exceed two hundred; fifty students are admitted annually to a four years' course (reduced to two years during the war). A candidate must have attained the age of 16 years and not have passed his 19th birthday; he must be unmarried. After admission, the cadets have to undergo a strenuous course of training. The syllabus of courses of instruction includes Mathematics and Mechanics (including Analytical Geometry, Calculus, Statics, Dynamics, Hydrostatics, Rigid Dynamics); Physics (including Heat, Electricity, Magnetism, Electrostatics, Sound, Light, Electricity); Chemistry (including atomic physics and physical chemistry); English and History; French; Military History; Imperial Military Geography; Military Organization and Administration; Military Law; Tactics and Topography; Artillery; Military Engineering; Weapon Training and Equitation. Of these Civil Engineering and Surveying occupy the most important place, Mathematics and Mechanics coming next. These two between them carry about fifty per cent of the aggregate marks for the entire course.

A gentleman cadet on leaving the college after completion of the course, who has not obtained a commission in the Royal Navy, or in the regular land or air forces or in the corresponding naval, land or air forces, of the other portions of the Empire, shall be required to accept a combatant commission in the R. C. A. V. R. or the Non-Permanent Active Militia or the Non-Permanent Active Air Force.

During the War, a Naval Training Establishment was set up at Vancouver.

Great Britain

Royal Military College, Sandhurst was intended for cadets for the Infantry, Cavalry, and Royal Tank Corps; and *the Royal Military Academy, Woolwich* for the Royal Artillery, the Royal Engineers, and the Royal Corps of Signals. In 1939, the War Secretary, Mr. Hore-Belisha announced that the Government had decided to merge Sandhurst and Woolwich into the Royal Military College, Sandhurst. The new rules also provide that payment of fees will depend on the parents' capacity to pay; this ensures that a candidate's financial resources will not prevent his admission if he is educationally and physically fit. The period of training has been 18 months in the

past. The instruction is for the most part in service or professional subjects; very little education in academic subjects is provided. The cadets are about 18 years of age at the time of admission.

Royal Naval College, Dartmouth gives to potential future officers of the Navy a sound general education of good public school standard, including some elementary instruction and indoctrination into Naval life and customs. The boys are admitted at a young age. The academic instruction is entrusted to civilian teachers.

Royal Air Force College, Cranwell has a two years' course. Candidates for the Royal Air Force receive training in aviation. A certain amount of academic instruction is provided also. Further training, in Aeronautical Engineering, is given at *Henlow* to officers of the R. A. F. who are fully qualified pilots; the course is of two years' duration.

France

L'Ecole Speciale Militaire, at St. Cyr, has a two years' course. In 1938, there were 780 cadets under training. Candidates for admission must not be below 18 or above 22 years in age. A competitive examination is held for admission. The curriculum includes general military instruction, history, geography, applied science, engineering, legislation, administration, modern languages, riding, and fencing. During the first year the course is common to all cadets. In the second year the cadets are placed in two classes, one intended for those who are to join the Infantry and Tanks, and the other for such as are assigned to Cavalry, Train, or Gendarmerie.

L'Ecole Polytechnique, Paris, had 468 cadets undergoing a two years' course, which is predominantly scientific. It covers descriptive geometry, analytical geometry, calculus, mechanics, astronomy, physics, chemistry, architecture and modern languages.

On admission to either of these two institutions, a cadet has to give an undertaking that he will remain in the service for six years after graduation. In actual practice, a substantial number of graduates are assigned to semi-military or non-military services. Thus, those who pass out of *L'Ecole Polytechnique* may be sent to the following services apart from Artillery and the Engineers for which they are primarily intended: Service of Powder and Explosives; Navy; Naval Construction Service; Naval Artillery Service; Naval Engineering Service; Air Force; Corps of River and Harbour Engineers; Corps of Aeronautical Engineers; Service of Roads and Bridges;

Service of Mines; Ministry of Posts and Telegraphs; State Water and Forestry Service; State Manufacturing; State Railways.

Board and tuition at both institutions are free.

Italy

There are three military colleges, at Rome, Naples, and Milan. Those who are assigned to the Infantry or Cavalry are sent to the *Infantry and Cavalry Academy* at Modena. Those who are to join the Artillery or Engineers have to attend a two years' course at the *Royal Artillery and Engineer Academy* at Turin.

The two years' course at Modena includes military training, cultural and spiritual education, and moral training; but professional training is particularly emphasized. The professional training comprises; Military Art, Tactical Training, Military History, Technicat Means, Explosives and Chemical Agents, Weapons, Elements of Ballistics and Fire, Science of State, Automobile and Motor-cycle Driving and Military Subsistence.

The Turin *Royal Artillery and Engineer Academy* attaches special importance to scientific education. The 'general studies' include algebraic and infinitesimal analysis, analytic geometry, physics, organic and inorganic chemistry, rational mechanics, drawing, topography, portable arms, artillery, fortifications, foreign languages.

The Artillery and Engineering School of Application at Turin was founded in 1739 and was the model followed by many countries which appointed its graduates as instructors.

At all the Academies, there is intensive physical training in gymnastics, fencing, equitation, motor-cycle driving.

Germany

There are in Germany five Officer Training Schools called *Kriegschule*, at Potsdam, Dresden, Hanover, Munich, and Vienna, training altogether 2,300 cadets a year. A candidate for admission must have education equivalent to two years of college; give proof of Aryan descent; submit biography in his own writing. The course at the School is the same for all arms. It comprises: tactics and appreciation of terrain, military history, customs of the service, weapons, military engineering, signal communications, motors, air foce, surveying, and medical service. Drill, physical training, riding and motor-cycling form part of the practical training. After completing

this course the candidate is sent for specialized training to one of the following branch schools: Infantry, Cavalry, Artillery, Motor, Combat Corps, Pioneers, Signal Corps. Then he joins his regiment as a lieutenant for a period of three months during which he is carefully watched by all the regimental officers. At the end of this period the officers vote on his suitability. If they are unanimous he is certified to the Commander-in-Chief for Commission; if not, the Colonel makes a report on which the Commander-in-Chief, makes his decision.

The following are the regulations governing the training of officer-cadets:

The students are to be trained to become personalities of strong character, who, as leaders and instructors, will be worthy men under all circumstances. The schools must lay the foundation for a unity of spirit and a high conception of their calling within the corps of officers. All teaching staffs must take every opportunity both on and off duty to develop, by personal example and by instruction, the cadet's devotion to duty, sense of responsibility, unselfishness in the treatment and protection of subordinates, understanding, judgment; and a full development of the personality must be emphasized. The student must realize that he is judged upon his innate worth. Unhealthy ambition and seeking after personal advantage are flaws of character which render a man unsuitable as an officer.

The instructors must not consider themselves only as superiors, rather they must be the counsellors to the students in all matters, not only those pertaining to the service. The interchange of ideas in a spirit of comradeship is the best to this end.

The governing spirit of goodwill in the treatment of students must rest upon a strict discipline.

Greatest stress must be placed upon simple living, regularity in financial matters, precision, and meticulous military procedure on and off duty.

Russia

Each of the fifteen military distincts has an Infantry School, and many have Artillery Schools. Candidates for admission are between 17 and 21 years in age, and must have either served for a period in the ranks in the Red Army or passed with distinction from a high school. On an average there are 600 cadets in each school. The duration of the course is three years. Practically all the schools

So at this parting of the ways when so many customs, conventions and institutions, time-honoured or deep-rooted, have already gone into the melting-pot, speculation naturally waxes rife on the question of the future of English in this sub-continent, the Indian Union and Pakistan. There is much in the career of English in India, which is so pleasant in the retrospect, side by side with a great deal that is unmistakably otherwise. A body of accredited experts and specialists must take stock of all that it has alone or left undone, must assess results and arrive at conclusive findings, before we can formulate our national policy and take the plunge, so to speak, one way or the other. In dealing with English, however, one or two provincial governments have already forestalled the Central Government, which has been otherwise so much beset and preoccupied since it came into being; they have taken their courage in both hands and pressed the button, and English is in the process of being displaced or disestablished within their borders. The cumulative effect of this initial step cannot be clearly foreseen at this stage. Is it the thin end of the reformer's wedge, or rather something that presages the gradual elimination or eclipse of a language and literature whose long vogue in this country has not proved to be an unmixed evil in its political, social and intellectual life? But a campaign against foreign rule should not necessarily be followed closely upon its heels by a campaign *against* the foreign language and literature. Modern educated India is enlightened enough not to succumb to such a temptation.

One of the strongest desiderata of Independent India is, of course, a common national language. A school of political thought traces the makings of it in Hindi, while Pakistan hopes to find its equivalent and counterpart in Urdu and install it in the office of the state language. Bengali, despite its exaltation as a capital literary medium, may not be suffered to function as an official language except on a provincial basis in a truncated Bengal, for its fortunes in Eastern Pakistan will be incalculable at least so long as the political horizon remains overcast with all the dark passions, engendered by the two-nation theory and all its deplorable implications. You dislodge English today, impelled by the nationalist urge. Well and good. But you are reckoning without your host; for until some common or standard Indian language receives the official imprimatur of a central authority, the provinces will be content to toe the line and thus lapse into separatist regional units or groups in search of an adequate and satisfying substitute, a suitable match for English,

that is to say. If communalism, as some sanguine prophets and invincibly cheery optimists solemnly avouch, is a passing phase, there are other disruptive as well as constructive *isms* already in the offing, the outcry against Bengalis outside Bengal being a case in point. A precipitate replacement of English by a multitude of provincial languages may thus stir up a host of new and unsuspected complications in a scene of confusion and strife, may foment localism and provincialism at the expense of national unity and solidarity.

In the manifold role of English in India so far, one fact ought to be patent to every unprejudiced mind; it has exerted its salutary influence as a neutral and elevating force, a unifying and stabilizing, cementing and consolidating agent, has moulded, cultivated and refined the mind of the intelligentsia from generation to generation, has fostered the growth of a national consciousness, of a single nationhood throughout the length and breadth of this land. Both English and England's essential mission to India do, in my view, stand stultified by the vivisection of India; the subtler appeal of this great foreign language and literature has to all intents and purposes been lost upon the redoubtable champions of Pakistan! All the same, Moslem India which was slow to take to English may be slower than Hindu India to drop it. Although the politico-religious affiliations of the Pakistan polity preclude anything in the nature of a forecast, one can indulge in a modest surmise or mere wishful thinking even at this stage.

The stock argument against the ascendancy of English, its pride of place, in this country is rooted in the logic of common sense. It is a language that we do not suck in with the mother's milk. Thought is constrained and fettered, racked and twisted in a foreign medium, whereas it flows freely in one's mother tongue. Hindi, it may, however, be observed in passing, is not the mother tongue of a South Indian, whether he speaks Tamil, Telegu or Malayalam. Translation is an impediment to the free play of the faculties and often involves a kind of slavish subjection of the mind to the tyranny of the vehicle of expression. In spite of all the invaluable contributions made by English to the enrichment of our national thought and life, it is almost inconceivable how the mind of the people can any longer be in bondage to a foreign language when our political tutelage is believed to have come to an end once for all. The anglicized Indian is a ' queer fish '; nay, he is neither fish, nor flesh, nor good red herring. What is called ' slave mentality ' is held to be the nauseous product of an age of

tions, is a first-rate gymnastic for the training of the mind and the memory, while a thorough conversancy with and assimilation of the spirit of English literature is itself a liberal education. The introduction, diffusion, and popularization of the English language and literature in this country flowed from purely political, commercial and administrative exigencies. None the less it has in many respects proved to be one of the inestimable boons of British rule in India. The battle royal that raged between the orientalists and the occidentalists in the good old days, as well as the deliberations and the decrees associated with that epoch-making controversy, has an interesting history, all its own. Benighted and chaotic India gained by the educational policy then adopted. An Indian Renaissance followed and that was not altogether devoid of at least some of the characteristic follies and foibles, licences and abuses such as had vitiated the earlier European parallel. Should independent and enlightened India relapse into medievalism again and be condemned to isolation, when the various parts of the world are being knit together into a homogeneous whole with the annihilation of space and such other conquests made by science alike in war and peace. The easiest and readiest safe-guard against such an eventuality and calamity, such a degradation and downfall, may disappear, should we banish English from the field of higher education in this country.

A nation's education is a sacred trust that will brook no tinkering at or tampering with. No one can forsee and foretell with confidence how and where the study of English is likely to stand in any scheme of national education that politically evolving India may choose to fashion and adopt for herself a quarter of a century hence—not too long a period of time to contemplate, having regard to the immensity of the stake, namely a nation's education. English, which will probably survive the recent political and constitutional revolution in this country, together with all the trials and tribulations occasioned by the shifting scene, may not be able to withstand in its Indian field the ravages of another world war—God forbid it—another maelstrom, debacle or something much worse! Such remote contingencies, however, need not unduly perturb our minds, nor need they overshadow the present perspective, as we approach the question of our educational policy and planning for the transitional period of a decade or so.

The intellectual nourishment or mental pabulum provided by the English language and literature has sufficed for us for more than

a century now. A knowledge of a modern European language like English, French, German or Russian, has an appropriate place today in any correct conception of liberal education. Circumstanced as we are and have been throughout the British rule in India, the retention of English is practically tantamount to the continuation of a long-established practice and tradition, with the incidental advantage of proceeding along the line of least resistance for some time more to come. To be schooled to an innovation is a strenuous exercise for the mind. If the practice and pursuit of English has entailed much avoidable misery on the great bulk of Indian students and involved a lamentable drain on national energy, thanks mainly to the prevalence of grievously wrong standards and faulty methods, the substitution of any other European " Compulsory second Language " in place of English is hardly likely to repair the damage or to bring any tangible relief either. Our young intellectuals should have at least a smattering of current English, spoken and written; the acquisition of a working knowledge of a compulsory second (European) language should be enjoined on those who aspire to a University degree, whether in Arts, Science or in Law.

It is a commonplace of commonplaces to say that English literature is one of the most uplifting and elevating intellectual forces in the modern world.

A literary language such as English in giving utterance to the noblest ideals and aspirations, the profoundest and most inspiring thoughts and sentiments of the representative men of a great people, propagates through these the lights of a revealing message, or of a valuable philosophy of life for the behoof of mankind. English literature thus becomes the graphic expression of a distinct style of thought and life, of a certain type of racial reaction, genius and behaviour, of a particular pattern of civilization and culture—becomes in a word the visible image and embodiment of a nation's sense of values. There is something that is characteristically British in that great people's attitude and approach to the all-engrossing question —how to live. And that is what is enshrined in imperishable vesture in their literature and language.

If the East and the West met on the Indian soil by divine dispensation and both imbibed refreshing and lasting ideas about each other's ways, let some of these abiding lessons be preserved as souvenirs of their long association and fellowship while they part company as friends.

An important service done by blood plasma is to carry off that part of the poisonous carbon dioxide gas which is not got rid of by the red corpuscles. It has also been held that there is a power in the fluid part of the blood, which " tends to kill the germs."

Alcohol and Blood Plasma

This liquid portion of the living blood, according to Sir Victor Horsley (*Alcohol and the Human Body*, p. 206), possesses " very definite powers in assisting to defend the body against invasion by disease and microbes." He holds that when disease producing micro-organisms are absorbed into the circulation through the lungs or bowels, the healthy blood plasma counteracts their injurious effects and ultimately destroys them.

This view is based on the elaborate and prolonged researches carried on by Dr. Laitenen who employed the microbe causing typhoid fever in the case of large numbers of persons with a view to obtaining reliable averages. The findings were as follows :

" When small amounts of human blood were brought in contact with these microbes, and the resisting and conquering power of each specimen of blood estimated separately, the blood from those human beings who were abstainers possessed a greater power of resisting the growth and development of the bacteria (than the blood of moderate drinkers)."

From the above it follows that if the fluid constituents of the human blood in the case of moderate drinkers possess a lessened power of destroying bacteria than those of total abstainers, it is only because of its lower resistive power due to the use of liquor.

Red Blood Corpuscles and Their Functions

The red blood corpuscles are very tiny flat bodies like coins hollowed on both sides being only 1/3.200th of an inch in diameter. Looked at singly, they are yellowish but in masses appear red in colour. As stated previously, these contain as their chief ingredient a colouring matter called haemoglobin. The colour of the blood is due to their presence in it in very large numbers for, as a rule, there are about four hundred and fifty red to one white blood corpuscle. The red corpuscles are constantly destroyed in the liver and spleen and are replaced by new ones coming from the red marrow of the bones. The

albuminous constituents of the red corpuscles play a valuable part in the establishment of immunity to disease and also of the conditions under which they preserve their colouring matter.

The colouring matter in the red corpuscles appropriates the oxygen of the atmosphere when the blood comes into contact with the air in the lungs. This substance possesses the somewhat peculiar power of holding the oxygen, so essential to health and life, so to say lightly, with the result that when the red corpuscles reach the cells which require it, they readily and easily give it up. Not only that, the cells form carbon dioxide gas which has to be got rid of. So wonderful are the devices of Nature for the preservation of health and the maintenance of life, that this poisonous gas, which has what may be called a greater attraction for the colouring matter than oxygen to all intents and purposes, turns it out and takes its place.

Alcohol and Red Blood Corpuscles

According to the German investigator Albrecht as quoted by Sir Victor Horsley on page 205 of his *Alcohol and the Human Body*, the action of alcohol like that of ether and chloroform is :

" probably to change the constituents of the (red) corpuscles which are of a fatty nature, and to damage the underlying structure of the cell."

As regards the effects of continuous indulgence in liquor even in moderate quantities Sir Victor observes :

" The repetition of this damage leads ultimately to more or less anaemia, which is recognised as a frequent accompaniment of alcohol-taking, and especially of alcoholic cirrhosis of the liver."

As the result of a series of researches extending over a number of years Prof. Laitenen of Finland came to the conclusion that while a small dose of alcohol does not reduce the number of red corpuscles, it " notably affects their resisting power when attacked by agents which tend to dissolve and break them up," in which connection it has to be remembered that this process known as haemolysis of the red corpuscles means " a very serious diminution of power to resist infective disease." That the mischief does not end here is proved by what appears below.

Dr. Harley's Experiments

Dr. George Harley, a distinguished English physician, conducted a series of very interesting experiments to determine whether alcohol helps or hinders the work of the red blood corpuscles. He mixed fresh blood with varying amounts of alcohol and then tried to find out whether its absorbing or giving off power was impaired or increased as compared with a portion of fresh blood of the same animal to which no alcohol had been added. In the report he submitted to the Royal Society of Physicians and Surgeons he said the following in regard to the oxygen-absorbing power of fresh blood and of blood containing alcohol :

" When ordinary air containing 20 per cent of oxygen was mixed with pure blood and shaken with it, 10 per cent of the oxygen disappeared, but with 5 per cent of alcohol added only 4 per cent of oxygen disappeared."

As regards the power of taking and then carrying off carbon dioxide under the same conditions he found that

" In pure blood there was 3.3 per cent of carbon dioxide formed ; with blood plus 5 per cent of alcohol added, there was 2.3 per cent of carbon dioxide formed. The alcohol changed the blood's colour to a pale brick, and when added in the proportion of 10 per cent, it entirely lost its power of becoming oxidized."

These investigations prove that alcohol-laden blood can neither supply adequate quantities of oxygen to the tissues nor take away from them as much of the poisonous carbon dioxide gas as is possible in the case of the blood of the total abstainer.

The service done by the blood through the agency of the red corpuscles is something like that of a double transportation system. It reaches oxygen where it is needed and collects and takes away carbon dioxide wherever it is produced in the body. Alcohol by slowing up the delivery of oxygen and helping the deficient collecting of carbon dioxide encourages the accumulation of uneliminated waste material in the tissues.

This explains why most of those addicted to liquor tend to put on weight, a great hindrance to muscular performance and a downright invitation to ill-health.

White Blood Corpuscles and Their Functions

The white corpuscles which are much fewer in number than the red corpuscles are, on the average, only 1/2,500th of an inch in diameter

and, while varying in size and appearance, contain nuclei and, as such, are true cells. In structure, they resemble the amoeba, and, like it, they are capable of altering their shape and of moving from place to place.

The illustrious scientist, Professor Metchnifoff of the Pasteur Institute, was the first to announce to the world his discovery that the white corpuscles possess the power of destroying the micro-organisms which cause so many diseases. They have therefore been compared to the standing army or policemen of the body whose duty it is to attack and, at all costs, to destroy any foreign matter such as dust or disease germs which may gain entrance into our system.

The white corpuscles carried in the blood move not only along the stream but also from side to side. Whenever their services are needed, they stick for a moment to the very thin well of the capillary and then, pushing out something like feelers, gradually force their whole bodies through it and pass into the tissues where they attack the invading germs by throwing out and enclosing them in the little fingers called " processes " and afterwards destroy them. Their method of surrounding or swallowing disease germs and waste matter has led scientists to call them phagocytes or devouring cells.

The battle carried on by the white corpuscles against the invisible and yet highly dangerous enemies of health and life has been described in the following language by Sir Victor Horsley, C.B., F.R.S., F.R.C., etc., Professor of Pathology in University College, London :

" If microbes of chemical irritants are present in one particular part of the body, these white blood-cells leave the blood-vessels in the neighbourhood in large numbers and stream towards the point affected. They then attack the germs and seek to destroy them. In so doing they are, many of them, in their turn destroyed, and their dead bodies, along with the fluids of the inflamed tissues, form ' matter ' or pus."

When a man suffers from an attack of a dangerous sickness like pneumonia or enteric, the fight between the white corpuscles and the germs of the disease is necessarily a long drawn-out one and much execution is done on both sides. The fresh supplies of the phagocytes required for carrying on the struggle are drawn from the bone-marrow where they are manufactured. At a crisis like the one mentioned above, it produces them in such abundance that three to four times the normal number are frequently to be found in the blood.

Alcohol and White Blood Corpuscles

Two Belgian observers, Massert and Bordet, found that, even in small doses, alcohol repels the white cells very strongly. Consequently, if alcohol in even minute quantities is circulating in the blood, the white corpuscles find it difficult to gather at the point of attack or to carry themselves quickly to the place where their services are needed. It has also been proved that alcohol in extremely small doses paralyses them more or less so that they cannot properly exercise their functions as destroyers of microbes. In other words, rendered less alert through the influence of alcohol, the white cells remain passive and motionless in the presence of dangerous micro-organisms which it is their duty to destroy and that promptly.

This neglect of duty on the part of the white corpuscles, for which they are certainly not to blame, leads to severe illness where the unusual delay in dealing with germs gives them an opportunity of establishing themselves so strongly that they cannot be driven out easily. This is particularly true of the microbe responsible for erysipelas and cellulitis. It was also found in the Pasteur Institute, Paris, that failure to check the development of hydrophobia in persons sent to this world-famous institution, occurred in almost every case among alcoholic patients.

Under these circumstances, very few intelligent and impartial men will be found to dispute the correctness of the view that,

" The seriousness of this adverse influence of alcohol upon the vigour and energy of the white blood-corpuscles cannot be over-estimated. Herein lies the explanation of many infections, many prolonged illnesses, much chronic ill-health, and many premature deaths."

The Blood Complement and Its Functions

In addition to the red and white corpuscles, other substances, one of which is known as the blood complement, are also found in healthy blood plasma. It has been established that their presence in it is required to assist the phagocytes in removing the disease germs from the body known as opsonins, they are produced in increasing amounts by the body whenever it is invaded by disease microbes.

The name given comes from a Greek word which means " to give an appetite, or to provide victuals, or prepare the feast, or to cater for." And it has been given to these substances because this is exactly

what they do. Carefully conducted experiments under controlled conditions have, in the language of a standard work on the effects of alcohol on the system of man (*The Scientific Authority for Total Abstinence* by C. C. Weeks, M.R.C.S., L.R.C.P., etc.), shown that the opsonins in our blood

" (*i*) increase the activity or appetite of the phagocytes;

" (*ii*) they make the germs more acceptable to the phagocytes, and thus they cater for the phagocytes and prepare the feast."

In the course of these investigations, it was also found that the disease germs within certain well-defined limits fight against themselves because they possess the power of encouraging the production of what are known as anti-toxins that is substances tending to prevent further infection.

Two important consequences followed from this new knowledge. The first was the adoption of the system of immunisation to certain germ diseases through the process of vaccination or innoculation. Under it, if an animal or a human being is vaccinated or innoculated with a small dose of germs, these anti-toxins are produced in such amounts that even a subsequently large dose of the same germs will do no harm. It is thus that many a precious life has been saved from attacks of typhoid, cholera, etc.

Further, even where a person in whom immunity has not been previously created through the above means is attacked by a germ disease, it has become possible to fight the microbes causing it by the use of injections. This system of the treatment of tetanus or lockjaw, diphtheria, typhoid fever, to mention some only of the many diseases which nearly always ended fatally in the past, is based on our knowledge of the above-mentioned intricate and interesting process.

Alcohol and the Blood Complement

Many years ago, the attention of medical men was drawn to the fact that impaired nutrition, the first symptom of the habitual consumption of liquor, was almost invariably followed by an interference with the production of immunity. The explanation of this was found after a series of tests on the lower animals conducted by two investigators, the results of which were summarised by Professor G. Sims Woodhead, M.A., M.D., Professor of Pathology, University of Cambridge, England. According to him, these investigators

found that, under the influence of alcohol, the blood complement is distinctly, though irregularly, reduced. From the fact that the resulting insufficient blood complement is not ample enough to combine with the necessary nutrient protein or albuminoid substances contained in the blood, they argued that the impaired nutrition met within the alcoholised animals experimented upon and therefore of men addicted to drinking, is due to the reduction of these substances. They also proved that the fighting of disease germs by the white corpuscles which only can destroy them cannot establish immunity, possible only when the blood contains them in adequate quantities, —something impossible in the case of the habitual user of alcoholic beverages.

Later on, Dr. C. E. Stewart conducted a series of tests to determine the effect of alcohol on what is technically called the " opsonic index " or the measure of the bodily resistance to disease. According to the report submitted by him, he found

" the index number indicating normal resistance to the bacillus tuberculosis to be 1.17 and for streptococci 1.12. The average of these same cases after the administration of two ounces of port wine was .73 and .655 respectively, showing a drop in the opsonic power of 37 per cent in the former and 42 per cent in the latter case."

These experiments conducted on healthy men under control prove beyond any doubt the reduction in the defensive power of opsonins through the presence of alcohol in the blood.

Dr. Delearde's Investigations

Many studies have been made with both human beings and animals to prove that the body's power to resist diseases is reduced by drinking to only one of which reference can be made here.

Dr. Delearde's attention was drawn to this matter by noticing the case of two patients, a man of thirty with a tendency towards intemperance and a child of thirteen, bitten on the same day by the same mad dog to both of whom careful anti-rabic treatment was given. The former who had been bitten on the hand died while the latter made a quick recovery though bitten on the head and face regarded as the most dangerous places where a patient can be bitten. The only factor which differentiated the two cases was that the man was in the habit of drinking while the child, naturally enough, was a total abstainer.

Not quite satisfied with the above explanation of the death of his patient till he had secured further evidence to corroborate his views Dr. Delearde commenced prolonged researches as regards the effects of alcohol on rabies in animals using rabite for his experiments.

Dr. Delearde found that he was quite successful in establishing immunity against this disease by vaccinating them against hydrophobia. Using other sets of the same animals, he next proceeded

" to test the effect of alcohol administered to the rabbits in doses varying from $1\frac{1}{2}$ to $2\frac{3}{4}$ teaspoonfuls daily, in helping or hindering the acquisition of immunity during the whole period of vaccination against rabies."

The results secured amply corroborated the conclusions he had drawn from his observations on his patient who had died. The rabbits which had been given alcohol remained just as susceptible to rabies as if no attempt had been made to give them immunity through vaccination.

Still another series of experiments established the fact that when alcohol was given to the rabbits before the period of vaccination but was totally stopped during and immediately after the days of injection, a certain degree of protection against hydrophobia was established by the anti-rabic treatment but it was neither so great nor so satisfactory as when no alcohol had been given throughout the experiment.

The results arrived at by this eminent French investigator created a profound sensation in the medical world when they were published in the eleventh volume of the *Annales de' Institute Pasteur* in 1897. These received further confirmation from the invesgations conducted by Professor C. F. Hodge of the Clark University, U.S.A., nothing about which can be said here on account of lack of space.

The whole matter, however, can be summed up in the words of Professor Weloh, the distinguished American pathologist who, in his *Physiological Aspect of the Liquor Problem* has observed :

" The lowered resistance (due to alcohol) is manifested both by increased liability to contract disease and by the greater severity of the disease (contracted)."

All the information in regard to the injury sustained by the blood through the use of alcohol may now be summed up in the language

of a medical man who has dealt with it in a non-technical and interesting way. He says,

"Patients vary in their power of resistance; some 'take' every disease which is about, others seem to be able to resist. Those who fall an easy prey to disease do so because their phagocytes are deficient in power, or their opsonins are less active, or because their general power of resistance is weakened. The practical point is that when we take a large number of persons, we find that alcohol clearly and definitely has an adverse influence on every one of the factors which enters into the successful fight against infections and blood-poisoning. Amongst other reasons this is why all surgeons dread operating upon alcoholic subjects."

EVOLUTIONISM AND ANTI-EVOLUTIONISM IN AMERICAN ETHNOLOGICAL THEORY

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III

CULTURE CHANGE: GRADUAL OR SUDDEN

IT will be instructive, by way of illuminating the mode and perhaps the motivation of the attack by the anti-evolutionists, to consider the following relatively minor point. Goldenweiser, in his numerous critiques and refutations of evolutionism, repeatedly accuses its authors of emphasizing the gradual aspect of culture change at the expense of the sudden or revolutionary.[1] "The (Classical anthropological) evolutionary concept of gradual change," he writes, "*received a setback* at the hands of another group of evolutionists"[2] who emphasized sudden and cataclysmic change (emphasis mine). He points out, by way of exhibiting the shortcomings of the evolutionists, that "every change in culture is preceded by a period of delay during which there is an accumulation of those factors which prompt the impending change. When....the resistance is overcome, the change comes—with a spurt."[3]

One gets a distorted conception of evolutionist theory from critiques such as this. It is true of course that the evolutionists frequently emphasized the slow, gradual aspect of culture change. But relatively sudden and profound change is implicit in their concept of stages: there could have been no *stages* if *all* change were slow and uniform. Furthermore there are numerous and specific references to sudden and profound change in their writings. Morgan, for example, observes that "the most advanced portion of the human race were halted, so to express it, at certain stages of progress, until some great invention or discovery, such as the domestication of animals or the smelting of iron ore, gave a new and powerful impulse forward."[4] Specifically he points to "the want of iron tools (which) arrested

1 See, *Early Civilization*, p. 26; "Cultural Anthropology," p. 227; "Anthropology and Psychology," pp. 73-74; "Evolution, Social," p. 660; and *Anthropology*, pp. 518-519.

2 "Cultural Anthropology," p. 227.

3 "Anthropology and Psychology," p. 74.

4 *Ancient Society*, pp. 39-40.

the progress of mankind in barbarism."[1] This invention achieved, culture leaped forward. He cites the invention of the bow and arrow, and the domestication of animals as examples of revolutionary changes each of which "must have given a powerful impulse to human progress."[2]

Thus we find the evolutionists again suffering from misrepresentation at the hands of the Boasians.

There is one further item of interest in this connection, namely, Goldenweiser cites Karl Marx at least three times[3] in opposing the evolutionary concept of gradual change with the revolutionary concept of sudden and profound change. Goldenweiser is careful to note that "Marx did not deny the actuality of gradual change."[4] But his failure to cite Morgan's numerous recognitions of revolutionary change is curious and excites wonder. Goldenweiser definitely creates the impression that evolutionism suffered ("received a set-back" to use his own words) at the hands of Marx. His failure to correct this impression by calling attention to the fact that Marx was delighted with the discovery of *Ancient Society* and planned to write a book about its findings; that his co-worker, Fr. Engels, did write such a book[5] since Marx did not live to do it; that *Ancient Society* was to become a Marxist classic and was translated into many of the languages of Europe and Asia (Japanese,[6] Chinese)—his failure in this respect is conspicuous. The unsophisticated reader might well get the impression that there was antagonism between Marx and the evolutionists when precisely the opposite was the case. But then Goldenweiser was bent on refuting evolutionism and if citing Marx would help, so much the better. As Goldenweiser himself once observed:[7]

"When engaged on a critical venture, the temptation lies near to carry one's criticism too far and thus vitiate the result by absorbing into one's critique the same type of prejudice or dogma disclosed in the subject criticized."

The errors and shortcomings of the Boas school on the subject of cultural evolution could be demonstrated and exhibited at a number

1 *Ibid.*, p. 43. 2 *Ibid.*, pp. 21-22, 534; see, also, pp. 535, 539, 553, etc.
3 "Cultural Anthropology," p. 227; "Evolution, Social," p. 660; *Anthropology*, p. 519.
4 "Cultural Anthropology," p. 227.
5 *Der Ursprung der Familie, des Privateigenthums und des Staats*, 1884; English translation by E. Unterman, C. H. Kerr & Co., Chicago, 1902; International Publishers, New York, 1942.
6 S. Yamamoto, translator, Seikokwan, Kanda, Tokio, publisher.
7 *Anthropology*, p. 519.

of other points if space permitted, such as their position on the origin of the state, economic organization of primitive cultures, slavery and other class distinctions, and many others. I hope to be able to deal with some of these problems in the future. I should like now to conclude this essay with some indication of the direction that a revival of evolutionism might take in ethnologic science.

A Revival of Evolutionism

Some conception of steps in the direction of revival of evolutionism might be gained from the criticisms already presented of the anti-evolutionist position on a number of matters, such as that of stages, progress, and the evaluation of cultures. I should like, however, to present a more comprehensive statement of the form that evolutionist theory may take in interpretations of culture in the future.

Man is an animal and like all other living beings he is constantly striving to make his life secure and enduring. Culture is the name of the means, the equipment, employed by man and by man alone in this struggle. Concretely and specifically, culture is make up of tools, utensils, traditional habits, customs, sentiments, and ideas. The cultural behavior of man is distinguished from the non-cultural behavior of the lower animals and of man himself considered *as an animal* as distinguished from man *as a human being*—by the use of *symbols*.[1] A symbol may be defined as a thing whose meaning is determined by those who use it. Only man has the ability to use symbols. The exercise of this faculty has created for this species a kind of environment not possessed by any other species : a cultural environment. Culture is a traditional organization of objects (tools, and things made with tools), ideas, (knowledge, lore, belief), sentiments (attitude toward milk, homicide, mothers-in-law, etc.) and acts (customs, institutions, rituals, etc.) that is dependent upon the use of symbols. The function of culture is to regulate the adjustment of man as an animal species to his natural habitat. This means that culture must regulate man's physical relationships to the earth and cosmos on the one hand, and control the relationships between man and man on the other. We may thus distinguish technological and sociological aspects of culture, the one adjusting man to nature, the other relating man to man. To these two aspects we may add

[1] See my essays, "The Symbol : the Origin and Basis of Human Behavior : " "On the Use of Tools by Primates," and "The Origin and Nature of Speech," for a more complete discussion of this subject.

a third, the philosophical, the knowledge, belief, and convictions—in short the *premises*—in terms of which human life is carried on in its sociological and technological aspects. Culture may thus be presented as an organized whole having three significant aspects: technological, sociological, and ideological or philosophical.

Technological, social, and philosophical culture elements interact upon and affect one another. But the roles played by these three classes of traits in the life of the human species are not equal by any means. The technological aspect is the most important by far; the sociological and ideological aspects are dependent upon the technological and are to a large extent given form and content by it.

It is obvious, of course, that man is dependent upon the external world for his existence. It is plain, too, that in so far as he is a human being as distinguished from a mere animal, man obtains the necessities of life from nature by technological means. Human existence is therefore dependent upon a cultural technology.

The social organization of a people is, to a great extent, the organized use of its technology in subsistence, shelter, defence, medicine, etc. We see the effect of technology upon social system directly when we compare a hunting people with an agricultural, fishing, or industrial tribe or nation. We see the effect indirectly in the various social arrangements—such as kinship systems, codes of law, ethics, and etiquette—which strive to obtain the maximum security of life through the most efficient use of technology. We can think of very few elements of social organization that are not *determined* by the technological culture—a man's club for companionship might be an example—and we can think of none that is not *dependent* upon it.

The ideological culture too, the philosophy of a people, is closely related to its underlying technology and is a function of it. As the technology changes the philosophy changes. It should go without saying that this does not mean that, knowing the technology of culture one could predict the philosophy to the extent of saying whether it will have a belief in three souls rather than two or one, or whether it will interpret the stars as lost chickens or the eyes of beasts. It means only that, knowing the type of technology one can predict the type of philosophy. A hunting people will have one type of philosophy, an agricultural or industrial people, another. The origin and development of agriculture, the invention of the telescope, microscope, spectroscope, steam engine, to name but a few of many steps of technological advance, are great landmarks in the history of philo-

sophy. Philosophy changes and grows as man's control over nature through technological means increases. A philosophy is in fact a conceptualization of experience as conditioned by its technological basis and its sociological form.

We are now in a position to understand the evolution of culture as a process. It rests upon the material, mechanical, physical, chemical means by which man is articulated with the earth beneath him and the cosmos around him. Social systems and philosophies are sociological and ideological functions of the technological culture; as it changes they are altered accordingly. Cultural evolution as a whole, therefore, is a function of technological evolution in particular.

The evolution of technology is a matter of harnessing energy and of putting it to work. According to the Second Law of Thermodynamics, energy is becoming more evenly dispersed throughout the cosmos; matter, more randomly arranged. In short, the universe is both breaking down and running down. The process that we call life is working in the opposite direction; it is building up, becoming more highly organized, moving toward greater concentrations of energy. But this process is possible only because living material systems are able to capture free energy from the outside and incorporate it within themselves. All life is a struggle for free energy.

Just as biological systems evolve by capturing free energy and utilizing it to build more highly organized systems, organisms with greater degrees of control over their environments, so do cultural systems evolve by capturing more and more free energy from the outside world and utilizing it to develop more highly organized systems with greater degrees of control over their respective environments. Cultural evolution is a continuation of the process of biological evolution on a higher plane.

Culture evolves when and as the amount of energy harnessed per capita per year is increased, other factors remaining constant. In the beginning, the cultural system had only the energy of the human organism to draw upon. Until the domestication of animals or the cultivation of plants, energy from this original source was supplemented to an insignificant extent by utilization on fire, wind, and flowing water. The domestication of animals to a limited extent, and the cultivation of plants to a much greater extent, were means of adding materially to the energy resources of cultural systems. They were able to develop extensively as a consequence. After hundreds of thousands of years of meager development, so long as the

When and if culture advances to new and higher levels, we may confidently expect science and the philosophy of science to grow and mature. It is inconceivable that a concept and a theory which has become the very backbone of biology, that is hailed by physicists as one of the two or three greatest contributions of human thought, and, finally, that has already proved its value in the social sciences, can be ignored by ethnology indefinitely. Sooner or later it will be restored.

As Goldenweiser observed, after attacking and "refuting" evolutionism for a quarter of a century : [1]

"Perhaps too eargerly absorbed in the process of tearing down evolution, we have been tempted to neglect the positive leads left behind by this school of thought. There is much room here for constructive work yet to be done."

Much room indeed. And the sooner we get at it the better. To say that we are living in critical times today is trite indeed. We need all the understanding, and guidance that comes from understanding, that we can get. Evolutionist theory, and it alone, will enable us to discover the basic principles of culture growth, to understand the present, and to predict its course in the future. As Tylor long ago expressed it : [2]

"The knowledge of man's course of life, from the remote past to the present, will not only help us to forecast the future, but may guide us in our duty of leaving the world better than we found it."

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[1] *Anthropology*, p. 521.
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Miscellany

PROFESSOR BENOYKUMAR SARKAR

A BRITISH VIEW OF GANDHISM

The following observations on Gandhi have been published in the *Manchester Guardian* of 31st January, 1948.

Gandhi's career is closed at last by an act of wanton murder. Yet however tragic his death may seem the manner of it was not unfitting. He had outlived the zenith of his political power but in his last days he had found a new and greater prestige, far transcending the frontiers of India, as a man ready to sacrifice his life for the sake of peace and tolerance. When he undertook his recent fasts he risked death voluntarily, knowing, perhaps, that martyrdom is not only the reward of saints on earth but the means by which they can influence their fellowmen when they have gone. And in India, at least, he will be honoured as a martyr long after he has been forgotten as a politician. He had lived as long and strained his powers as far as mortal man can fairly expect to be allowed to do. He had seen the rebirth of Indian independence. Yet we cannot say that his work was accomplished, since his strength and his weekness lay in this, that he undertook a task too heavy and too high for one man to achieve, while he failed to make sufficient provision for successors to carry on the work. Indeed, as he had no predecessors, he is likely to have no successors. He was a peculiar product of his own age. The future may judge his achievement to have been small, yet his career will be remembered just because it illustrates so well the new forces beginning to work in the half-educated, half-civilised world of the late nineteenth and early twentieth century and the new phase in the conflict between East and West. Gandhism can best be regarded as the offspring of contact between a mild, tolerant, contemplative Hinduism and the energetic, Puritanic reformist spirit of the religious non-conformity of the West. The home in which Gandhi was born and reared clove steadfastly to the ancient Hindu tradition. His education was in the arid, rationalising schools and colleges of British India. Coming to London to be called to the Bar, he picked up acquaintances among those who used to haunt vegetarian restaurants, and for the rest of his life he was much in contact and in sympathy with Western nonconformists, reformers, Puritans, and ascetics.

Gandhi was the reverse of anti-British, and he was scarcely a nationalist. He felt the insult of alien rule less than nine-tenths of his educated countrymen. But since the Government of India could not adopt his views on

non-violence and the rights of the poor peseant, he came to regard it as a satanic system which should and could be ended by his favourite method of non-violent resistance. Thus Gandhi, though little interested in Nationalism, found himself defying the British Government at the head of an Indian Nationalist movement, with the eyes of all the world upon him. He misinterpreted the Nationalist fervour behind him and allowed himself again and again to believe that it was the purified spirit of Satyagraha, which stimulated his countrymen. For he long failed to grasp firmly the essential fact that the purification required for a National Satyagraha could not come miraculously in a year or a decade but only through a century of continuous discipline and wise leadership.

Pakistan Analysed by an American Group

In the January, 1948 number of their *Bulletin* (New York, 111 West 42 Street) the " American Friends of India " have exhibited Pakistan in some of its facets as follows :

The basis of the Pakistan economy is agriculture, and the basis of the agricultural system is landlordism, with tenancy and extreme poverty. The landowning elements have long been a power in the Moslem League ; they continue to be powerful in the new government. The striking poverty in political resources forecast for a Moslem League Govt. has become manifest, in the extent that four of the five Pakistan provinces are today ruled by British governors held over from the old administration. The Dominion's weakness is further demonstrated by its attitude towards the Princes.

Pakistan leaders have made repeated overtures to the States' rulers promising complete " independence " and declaring that the government will tolerate no interference in the internal affairs of the Princely States. In addition, the Pakistan government has welcomed the presence of British military bases and personnel. The Pakistan Constituent Assembly, elected without universal adult suffrage, is overloaded with elements representing landlords, speculators and demagogic communal agitators, and has displayed no haste in the writing of a constitution.

Standing further right than the Moslem League government itself, since that government must accept responsibility for developments in the new state, are the irresponsible forces of the semi-feudal Moslem landowners and religious communalists. These forces, with the air of the Moslem National Guard—the Moslem League's own police, uncontrollable by political authorities and similar in many respects to European brownshirts—are intimidating the government by provoking riots. They have accomplices among the Moslem Princes.

The urgent and immediate need of the people in both West and East Pakistan is a raised standard of living. This can be achieved in only two ways : a rationalization of agriculture and rapid industrialization. With

the strength of landlordism in the Moslem League and in the state generally, the League government is understandably taking no steps toward the most immediate need of all,—land reform to eliminate the abuses of tenancy and, ultimately, to subdivide the great holdings.

There can be no doubt that Pakistan's government leaders recognize the need for industrialization, to raise the general level of the economy. The way they intend to go about this process, however, is summarized in an article by Robert Trumbull in the *New York Times* of October 13, 1947. Mr. Trumbull reports from Karachi :

" Pakistan's capital city is today full of cordiality toward Americans, and there is an equal friendliness toward the British. Pakistan, in striking contrast to India, has welcomed British assistance in putting the new dominion on its feet. Four of the five provincial governors in Pakistan are Englishmen, while Britons, by invitation, occupy key positions everywhere in the Pakistan government.

"Under consideration, it is understood here, are oil concessions to American companies in Beluchistan and Kalat, one of the Princely States in the Pakistan sphere and one which, incidentally, has a seacoast. Pipelines, mineral development in the North-West Fontier Province and large irrigation projects have also been broached to American interests, it is said.

" Ghulam Mohammed, Pakistan's Finance Minister, declared that Pakistan had a definite need of American technicians in the infancy of her national development. Certain definite plans, he said, have been held up by recent communal troubles and the immense migration of minorities that is still going on.

" Another high source said that American enterprise would be sought for the development of Chittagong, Pakistan's only major port on the eastern side of the peninsula. He believed that Chittagong might appeal to United States national interest as a friendly naval base."

It thus becomes apparent that Pakistan government leaders while aiming at some industrialization to increase their own power *vis a vis* the landlords and to solidify their economic position, are prepared to deliver the entire area to the tender ministrations of foreign capital, in a manner reminiscent of the open door in China or the " private boroughs " in many areas of Africa, the Middle East and elsewhere. In this regard, it should be pointed out that British economic interests predating August 15 have in no wise been withdrawn, and that no provision has been made for halting the flow of capital, resulting from these investments out of the country.

The " American Friends of India " is a non-partisan group comprising a section of the G.I.'s (Government issues), *i.e.*, the recruits who had been employed in the India-Burma Theatre during World-War II (1939-45). The association was established at New York in September, 1946.

Round the World

Constitution-making in the Fourth Republic of France—

Professor R. K. Gooch of the University of Virginia discussed sometime ago in the pages of the American Political Science Review the question of constitution-making in France after the War. Post-war France was not to be regarded as a continuation of the third Republic as it existed prior to its occupation by Germany in 1940. Consequently it was not to be assumed that with the victory over the Nazis the system of government as it obtained during the Third Republic was to be revived in France. With that constitution was associated the humiliation which the French people had to undergo during the War years. The new France rescued from the thraldom of the German invaders was to be declared the fourth Republic so that it might be distinguished from the old France which was dishonoured by the Huns and humiliated by the collaborators of Vichy. It was but essential that the fourth Republic should have a costitution of its own different from the one under which the French people could not maintain their liberties and safeguard their national independence and sovereignty.

This was decided in October, 1945, when the First National Constituent Assembly was elected by the French people. It was clothed, as its title signified, with constituent authority. This Assembly was to be responsible during its term of office for the government of the country and simultaneously it was to fashion a new constitution for France. In this it differed from a mere constitutional convention as the Philadelphia Convention of 1787 happened to be. The National Constituent Assembly was to carry on the government of France and formulate a constitution within seven months. Actually the work of constitution-making was finished on the 15th of April, 1946, and the draft was referred to the people for adoption or rejection. It was rejected by them and the voters at the same time elected the second National Constituent Assembly. In September of the same year the second draft was prepared by this new body and was subsequently ratified by the people when it was referred to them. It should be emphasised that the principle of popular ratification was introduced for the first time in France after the last War. In the third Republic this procedure was never regarded as a concomitant of popular sovereignty. For constitutional purposes the two houses of the legislature sitting together as the national assembly were treated as the sovereign and what they might do was final. During the revolutionary era of the last decade of the eighteenth century also popular approval by referendum was never sought. But France

has travelled further since then in the exercise of the rights of sovereignty by the people.

One of the main reasons for the rejection of the April Draft was that it instituted " gouvernement d'assemblee." It should be remembered that one of the important factors of the decline in the efficiency of democratic government in France during the third Republic was the interference of the legislature in executive matters. The Chamber could not be dissolved except with the consent of the Senate and this consent was not available. Consequently the Cabinet was singularly dependent upon the legislature whose whims it had to humour and whose directions it had to carry out. Nor was there any stable opinion in the chamber. Cabinets had to be formed by all possible permutation and combination of groups which were numerous in the Chamber and which shifted from one combination to another with the slighest changes in circumstances. In view of this fact Cabinets were formed and dissolved with a frequency which told on the efficiency of government in the country. Now the first draft of 1946 apotheosised this rule by the assembly. It was expected to give an opportunity to every malcontent group in that body to make stable government impossible. The role of the assembly is to lay down the policy and that also under executive direction and initiative and to scrutinise the activities of the executive. Its duty should not be to run the administration itself. It should only see to it that it is being properly run. The French people who had already suffered from legislative interference in what are rightly regarded as the affairs of the executive refused to accept the draft. But it should be stated at the same time that the second draft which they have ratified does not differ fundamentally from the first in this respect. It is only slightly more acceptable.

The first draft again made the legislature unicameral. In their enthusiasm to make this body omnipotent and truly sovereign, the framers decided that it should consist of one assembly. It is true that there would be two advisory bodies—the Council of the French Union and the Economic Council. But they would be useless for essential purposes. The second draft has retained these two advisory bodies and has at the same time introduced the Council of the Republic which would be a part of the parliament. In other words it is to serve as a second chamber of the legislature which is consequently a bi-cameral body. The new second chamber is, however, a body with far less power than the Senate of the third Republic. It is indirectly chosen, has the power to debate upon, and suggest amendments to, measures passed by the National Assembly. But its power of initiation is subordinate. Besides, as the National Assembly " alone shall vote laws," the Council of the Republic has no final authority of its own in their enactment.

In the third Republic all executive powers were vested in the President of the Republic to be exercised however on his behalf by the Council of Ministers. But the new Constitution distributes these powers between the President and the Prime Minister. The duty of enforcing the laws is, for instance, vested in the Prime Minister but the command of the armed forces is vested in the President, who is also to promulgate the laws and sign decrees for their execution. General power of appointment is also vested in the Prime Minister. It is unlikely that in practice this distribution will make the President more powerful than before. His decisions are still to be countersigned by a minister. As for the appointment of the Prime Minister and his Cabinet a peculiar arrangement has been created. The President is to choose him and once chosen he must present himself to the assembly with a statement of his policy. The assembly is then to approve of his selection and accept the statement of his policy by a deliberate vote. The cabinet is then to be formed by the Prime Minister without reference to the legislature. As to dissolution of the assembly, lack of necessary power about which on the part of the executive was largely responsible for unstable government during the third Republic, arrangements which have now been made are also peculiar. No dissolution is possible within the first eighteen months of the term of the legislature. Thereafter dissolution is possible only if there had been two ministerial crises during those previous eighteen months due to a vote of censure or lack of confidence of the assembly.

The French constitution has been worked now only for a year and a half. It is consequently too early to say whether it meets the needs of France or is a model for other countries.

Aim of Education and How to achieve it—

Dr. Inge, former Dean of St. Paul, observed sometime ago in a British monthly: "Broadly two answers may be given as to the object of education. We may call it the full development of personality, or the preparation for citizenship. Both are true but insufficient and even dangerous if either is taken in isolation. Personality, which is not given us to start with, is the realization of what is in us to become. The ideal object of education is that we should learn all that it concerns us to know, in order that thereby we may become all that it concerns us to be. The wise man is he who knows the relative values of things, who knows what things are best worth winning for their own sakes, and what price we must pay to win them. What are the things which, since we cannot have everything, we must be content to let go, and what are the things which we must on account lose? We must know ourselves and know our world, in order to give and receive the best value for our sojourn in it. This wisdom can obviously not be won in isolation. The self-centred life has no circum-

ference and is maimed. The man who has no experience is made no wiser by solitude. On the other side, we cannot devote ourselves to others unless we have a self to devote.....all reforms must come from within and energize outwards. The inside of the cup must be cleansed first."

In order that children attending schools may attain this objective it is necessary that " the teacher must have some philosophy of life which will, even though unconsciously, express in his daily work...." But to this end religious lesson in the schools should not be regarded as very important. " Religion is usually caught, not taught—caught from someone who has it. If the teachers are religious, that is to say, if they believe that God has revealed Himself as absolute goodness or love, truth and beauty; if they hold communion with God in prayer and " think on " whatever things are true, noble, just, pure, and of good report, their pupils will learn essential Christianity, by seeing it in action.... "

Emil Ludwig on Interviewing—

The famous author, Emil Ludwig, had sometime ago much to say about the art of interviewing in the Contemporary Review. His experiences in this field are immense and what he says about the art should be borne in mind by all interested in it. " Among all the varieties of publicity the interview represents the most graceful form. Outwardly an interview is but the reproduction of a talk. Yet there is more behind it than meets the eye." But interviews to be successful must be attempted only by men who have full knowledge of the psychology of those they interview. " Celebrities, be they statesmen or writers, inventors or film stars, are much more likely to open their hearts to the question of a straightforward, unbiased interlocutor than to a semi-informed person who wants to discuss himself rather than be informed. In fact, a great man is more at his ease explaining the fundamentals of his metier to a child than to an " educated " grown-up. Fundamentals are always simple. Moreover everybody prefers virgin soil to much-covered fields."

" In World War I, I happened to be entrusted with some " difficult " interviews—exactly because I was not conversant with matters political, and therefore could be relied on to ask from princes and generals such questions as an expert would never have dreamt of asking. That naive approach surprises and refreshes people." A good reporter should again start by asking questions not related to the field of his object. " A banker will always be flattered by being asked how he feels about God. Talking art with a general may well win him over. Human relationships are formed within the first minutes of an encounter. They decide the sympathies or prejudices towards the stranger on the part of the great man. His own interest in the intruding journalist will be shaped by the amount of appre-

ciation he receives as a personality whose general views mean to the world at least as much as his expert judgment."

"It would be entirely wrong to discuss the value of money with a wealthy man. To me old Rockefeller gave away what I think were his innermost thoughts about money when I told him how I once watched one of the wealthiest Italians tipping a waitress." Power of observation in the interviewer should be highly developed so that without even opening his mouth, he may sometimes get a fair appreciation of the man he was interviewing. "Man's ear is easier to beguile than his eye. In watching Kalinin, the President of the U.S.S.R., going over the splendid menu of banquet—he was late—turning it down and asking for a simple Russian fish chowder, I learnt quite a lot about the character of that one-time peasant..... One morning in the summer of 1914, I went to see Prince Lichnowsky, then German Ambassador at the court of St. James, and found him reading newspaper clippings. He was standing in the middle of the room, and every time he was through with one of the clippings he just dropped it—which in the end made for a small mountain of paper he had to step out of. Such visible lack of a sense of order made me wonder whether the prince—he was an intelligent man and far above all the Kaiser's diplomats—was really able to find his way in the intricacies of international politics."

House of Lords—

Along with the proposal to reduce the veto period of the House of Lords from two years to one, the future composition of this chamber is now before the Parliament. At present this assorted body of hereditary peers, life peers, representative peers and ecclesiastical Lords consists of about eight hundred men. Most of them of course remain busy with hunting foxes in the country or with making money in different capacities in and out of England. They have neither the time nor the inclination to attend the meetings of the House at Westminster. On crucial occasions, however, they respond to the whip of the Conservative Party and throng the Westminster Hall. It is now proposed that this relic of the past, if allowed to exist at all, should be drastically amended in composition and texture. In the year of grace 1948 none should be a legislator only by virture of the fact that their fathers and before them their grandfathers had their seats in the gilded chamber. So it is suggested that the strength of the House should be reduced from 800 to about 300 and that half of this number should be elected by the lower house and the other half returned by the existing hereditary peers from among themselves. We do not know if the constitution of the House of Lords will really be decided upon on this basis. For no question has been longer before the public than this one and no question has elicited a greater number of suggestions for tackling it than the reform of the House of Lords. Sometime ago Lord Stangsgate (formerly

Wedgewood Benn) gave a short history of these suggestions in course of a discussion on the amendment of the Parliament Act.

As early as 1888 Lord Salisbury had introduced what was known as the Life Peerage Bill. It was passed by the Lords but killed in the lower House. In 1901 Lord Lansdowne had brought in a bill under which the House of Lords would have two elements—nominated and elected. But nothing came of it. In 1910 again the question became urgent. The rejection of the budget by the House of Lords had created a wave of just indignation and there was a conference of party leaders as to the way the composition of the House of Lords might be reformed. The conference, however, broke up before doing anything in this regard. Nor were the resolutions produced by Lord Rosebery and then by Lord Lansdowne more effective. Then in the midst of the war of 1914-18 there was held that impressive conference presided over by Lord Bryce. It did not produce any report worth the name but Bryce in a letter summarised the consensus of opinion and pointed out that the House of Lords should consist of 350 members of whom 246 would be elected by the lower house. As usual the letter of Viscount Bryce went the way that other proposals had done in the past. Nothing could be done to implement the recommendations. During the inter-war years the Conservatives were most often in power and they thought the question of the future of the House of Lords should be solved by them lest the left-wing parties should do any mischief after gaining power. In 1927 the Lord Chancellor actually made some specific proposals in this regard. But Ramsay MacDonald as the leader of the Labour Party objected and the proposals had to be dropped. They were not seriously made. In 1933, however, a bill introduced by Lord Salisbury was debated. But it also did not produce any result. In view of this long history of reforms suggested but never acted up to, it is difficult to say if the present proposals will have a better fate.

Reviews and Notices of Books

Politics and Society. By Shahid Pravin. Published by Padmaja publication, Baroda. Price Rs. 5.

The book under review deals in a masterly fashion the need for parties and the various ideologies for which they stand. Congress is the largest and still the only widely recognised party in the country. But the Congress, the author declares has to take new orientation. Instead of a fighting body, it should be a compact whole affording shelter to different groups within its fold and its ideology would henceforth be to serve and solidify the different interests into one.

But all speculations about political achievements would end in vain if we fail to assimilate the different civilisations and fuse them into one Indian nationality. This would be possible, the author points out, if we accept all dynamic theories of modern life and banish all old conceptions of truths however useful they might once have been.

We strongly recommend the reader to read the book and we have no doubt that after finishing his reading, he will be amply rewarded with much new information on such questions as party, government, duty of modern women, the sphere of individual in society and the influence of religion on our daily life.

" PEREGRINE PICKLE "

The Constituent Assembly of India. By A. C. Banerjee, M.A., Ph.D. Published by A. Mukherjee & Company, 2, College Square. Price Rs. 10.

As documentary literature, the book will have immense importance to a future the historian who will engage himself in writing the history of Indian Independence. It contains almost all the valuable and important documents of the independence movement, the chief of which are the ' Quit India Resolution ' of August 8, 1942, the famous announcement of Lord Pethick-Lawrence at the House of Lords on February 19, 1946, tripartite correspondence, April 27 and May 12, 1946, the Congress Working Committee Resolution of May 24, 1946, statement of the British Government, December 6, 1946. A Second Volume will be necessary to supplement the present volume after the Constituent Assembly has finished its task.

British Savagery. Edited By Ramsaran Vidyarthy, published by Shivlal Agarwala & Co., Ltd., Agra. Price Rs. 9-8. Foreward by Rafi Ahmed Kidwai.

Here is an honest attempt to get a full and complete survey of the struggle of our country for the attainment of independence from 1857 to 1947. It is

of course, too much to hope that the author's decisions based on facts should be free from colouring or bias; but it is true that a patriotic vein runs through all the pages. The data have been mostly collected from Assembly debates, newspaper cuttings, etc., which are of temporary importance and so they stand a little coloured. We, however, have nothing but praise for the author who so laboriously erected milestones along the path we passed to secure our independence.

M. B. B.

Pressure of Population and Economic Efficiency in India. By D. Ghosh. Published by Indian Council of World Affairs, New Delhi. Price Rs. 3-4.

Here is a masterly exposition of pure economic facts which require solution at the hands of our leaders. The author has tried his best in the course of a few illustrative pages to prove that in future, we can both multiply freely and, at the same time, enjoy an increasing standard of life. Who will deny that in our race of life we are often greatly handicapped by an illiterate and poverty-stricken multitude and that it is high time that our national Government should be mindful of equitable distribution of sovereign power to develop the country's resources? An Indian peasant scarcely possesses the means for his bare existence. To make him feel that he is independent, all that is necessary is to improve his lot enabling him to earn a decent living. We quite agree with the author that the old classical teachings of Political Economy should be eschewed and facts of the future should be faced with boldness and vision. This boldness will be specially necessary in planning our industry and in increasing the agents of production quickly and sufficiently to put 'the ghost of Malthus' back into the cupboard.

J. N. MITRA

In Search of Truth. By Abel J. Jones (Nelson, 3/6).

An Indian reviewer naturally wishes to find out if in a book with this caption there is an attempt to assess Gandhiji's sole passion—the search for Truth. Dr. Jones, however, thinks better; he refers to any number of thinkers, living and dead, but "colonial" celebrities are rigidly beyond his ken. He has written a somewhat trite little book, cheap in its approach to science, obvious of the impact of society on knowledge and *vice-versa*, facile in hallelujahs to religion and in the hope that, irrespective apparently of basic change in society, men would somehow turn out to be such firm believers in "idealist ethical principles that leaders who seek to use them for immoral ends must fail." It is a well-intentioned but not particularly important book.

HIRENDRANATH MUKHERJEE

Ourselves

Institute of Nuclear Physics

On the 21st April, 1948 the foundation-stone of the Institute of Nuclear Physics, University College of Science and Technology, was laid by Dr. Syamaprasad Mookerjee, Minister, Government of India. The ceremony held in that connection at the Science College was presided over by Professor P. N. Banerjee, Vice-Chancellor, and was attended by teachers of all departments of the University.

The Vice-Chancellor in calling upon Dr. Mookerjee to lay the stone entered briefly into the history of the project and pointed out how the idea took a concrete shape as the result of a donation of Rs. 60,000 to the University by the Tata Charities in 1940. Subsequently donations from other quarters also arrived and facilitated further the development of the project. Dr. Mookerjee in course of the speech he made on the occasion emphasised the need of fundamental research in atomic energy. "We must remain fully alive to the needs of fundamental research on every branch of human knowledge, particularly in atomic energy. I am told by competent authorities that in spite of the spectacular effect of atom bomb, they know very little of the laws of atomic nuclei, and the processes leading to the release of atomic energy. Fundamental discoveries in this line may revolutionise the whole technical procedure and make all our present machineries obsolete. For this reason American and European countries are spending colossal sums on fundamental research in Nuclear Studies . . . . I hope that with this nucleus and after the completion of the Institute of Nuclear Physics, Calcutta University will be able to provide arrangement for a larger number of students every year . . . ." The function was terminated by a vote of thanks proposed by Professor M. N. Saha, President, Council of Post-Graduate Teaching in Science.

The World-Economic Institute of Calcutta University

The World-Economic Institute of Calcutta University has been established (March, 1948) with the object of helping forward the objective and realistic studies of Post-Graduate students in Economics, Commerce, Political Science, Sociology, and International law. From time to time this Institute is to arrange for lectures on diverse non-Indian countries by foreign merchants, travellers or consular officials as well as by Indians such as come back equipped with experience obtained in foreign countries.

This course of lectures is likely to render the Departments of Economics, Commerce and Political Science somewhat more modernistic, practical and up-to-date. The Committee comprises Professor Pramathanath Banerjee (Vice-Chancellor), Sri Satischandra Ghosh (Registrar), Sri Sailendranath Mitra (Secretary, Post-Graduate Council in Arts), and Dr. Benoy Sarkar (Secretary, World-Economic Institute).

Agriculture in the U.S.A.

On Thursday, 8th April, 1948, a talk on Agriculture in the U.S.A. was given under the auspices of the World-Economic Institute of Calcutta University in the Darbhanga Hall at 3-30 p.m. The lecture was open to the public and drew a large audience comprising members of the teaching staffs in Geography, Agriculture, Botany, Commerce, Political Science, Constitutional Law and Economics.

The lecturer was Mr. Glen Overton, President, American Machine Co., Dowagiac, Michigan, Past President, Michigan Dairy Association and Allegan Agricultural Society. President Overton has been visiting India on a business tour for several months. This is his second visit to India.

Official Notifications, University of Calcutta

Orders by the Vice-Chancellor and Syndicate of the University of Calcutta

Notification No. Misc.R.5

It is hereby notified for general information that the following syllabus of studies for the Diploma Course in Domestic Science Training has been prescribed by the Syndicate under Section V, Chapter XLE of the Regulations (pp. 159-160 of the Edition of 1945) :—

SYLLABUS OF STUDIES FOR THE DIPLOMA COURSE IN DOMESTIC SCIENCE TRAINING

(A) Theory and Practice of Teaching including School Organisation.

Theory and Practice—

Aim of Education. Child's nature and nurture. Factors of Education—child, teacher, teaching material, Law of learning and the Art of Teaching general principles, plans and methods of teaching. Habit formation and its importance in education.

School Organisation—

The Principal and the teaching staff. The School Plant. Classroom Organisation —Punishment and disciplinary control. School and its relation to the community : the school and the home. Co-curricular activities. Present trends and problems.

(B) Home Life and Child Psychology.

Home Life—

The home-psychological and sociological background of the home—the child at home—environment and its effect upon the child. The nursery and its furnishing and equipment. The parent and the child, child's questions and answers. From the Nursery to the School Room, preparation at home. Emotional and intellectual tone of the home and the effect upon the development of the child.

Child Psychology—

Child psychology and education. Stages of development and the basic needs. Instincts and emotions—Social emotional development of the child. Intellectual education—Aiding memory and imagination : stimulating the mind to perceive and conceive, training the mind to think, reason and judge ; developing the powers of attention and concentration. Auto-education and Psychological significance of activity.

(C) Hygiene and Home Nursing (including Practical Work).

Personal Hygiene—

Infection and resistance ; specific prevention of certain diseases—Systemic anatomy and physiology. Systemic disorders and their prevention under hygienic regime. Diet. Hygienic life and habit and social training.

Community Hygiene—

Water Supply, purification and storage, detection of impurities. Air-purification, ventilation and air conditions. Food supply. Housing. Disposal of refuse. Prevention of infectious diseases from the Public Health point of view.

Mothercraft and Child Welfare—

Infantile and maternal mortality in India—A comparative study causes. Antenatal care—food and rest for mothers. Post-natal care. Development of infants —the emotional, physical and mental. Diet and clothing. Artificial fooding. Infantile ailments and their treatment.

Home Nursing and First Aid—

Home Nursing. Preparation of sick room. General principles of feeling, spending, lifting, etc. Helping the doctor with all accurate observations and reports. Food and feeding. Prevention of the spread of infection from the patient. Surgical nursing and Nursing of Children. General treatment of common ailments—Indigenous medicine. First Aid ; General handling of accidents, bruises, burns and scalds, fractures, dislocations, sprains, etc., and bandages.

(D) Home Organisation, Housecraft and Laundry Work (including Practical work).

Home Organisation and Housecraft—

Choice of the house—Planning of the house. Furnishing of the house arrange-

ment and care of kitchen, Store-room and larder. House decoration and home-craft —Alpana. General rules of house-keeping—Functions of the home and management of the house-hold. Cleaning of the house and utensils of different metals—Daily, weekly and spring cleaning—Cleaning of furniture—A few receipts for furniture cream, metal polish, preparation of 'Flit' Household posts—their prevention.

Laundry Work—

A study of the different types of textile fibres—Wool, silk, cotton, linen and rayon —their physical and chemical properties. Identification of fibres. General principles of Laundering—varieties of soiling matter—cleaning—chemical and mechanical processes, washing—water—its nature—hard and soft water. Soap—its nature and reaction—preparation of soap solution—other cleaning agents. Reta—Bran, etc. Boiling—Steaming—Rinsing—Bluing—Stiffening and finishing.

Different processes of cleaning the fabrics. Washing of coloured articles. Special treatment of miscellaneous articles. Dyeing—process of dyeing and use of Mordants. Bleaching and stain removal—types of strains and methods of removing them. Textile printing.

(E) Cookery and dietetics (including Practical work)—Cookery.

Home cookery and service. The art of menu planning. Cookery of special diets, sick diet, Nursery cooking. Preservation of fruits, pickling, bottling, etc., Baking, making of simple cakes and biscuits.

Dietetics—

Functions of Food. Constituents of food—their uses. Chemical aspects. Digestion action of Ferments. A detailed study of the factors of food—Carbohydrates, Fat, Protein, Minerals, Water, Vitamins. Scientific Standards for diet—food value and caloric value—daily requirements. Choice of food. Composition of common food stuff (*e.g.*, Milk, Butter, Meat, Fish, Egg, Vegetables, Pulses, Cereals, Fruits, etc.). Changes in weight and character of food during cooking effect of heat principles that underlie the methods of cooking. Food as a preventive for disease.

(F) Needlework and designing (including Practical work).

The place of needlework in Schools, Scheme of work, Selection of tools and materials.

Dress Making—

Simple pattern making and adaptations. Use of brought patterns—choice and suitability of material and style. Planning and cutting out of blouses, skirts, frocks and suits. Rules for fitting. Renovation and Repair work.

Lingerie—

Making of patterns, cutting out and making up all types of lingerie including children's garments. Decorative work, *e.g.*, embroidery, applique, etc.

Knitting—

Baby's can and socks, comforter, woolen jersey, scarf, etc.

Chicken Work—

The use and care of the Sewing Machine.

B. B. DUTT,
Registrar.

I. In addition to the candidates whose names were published in the Bengal Educational Gazette, April, 1947, as having passed the Preliminary Examination in Law held in February, 1947, the following candidate is also declared to have passed the Preliminary Examination in Law held in February, 1947 :—

Maitra, Kasikanta (Non-collegiate Student, University Law College) .. Second Div.

II. In addition to the candidates whose names were published in the Bengal Educational Gazette, April, 1947, as having passed the Intermediate Examination in Law held in February, 1947, the following candidate is also declared to have passed the Intermediate Examination in Law held in February, 1947 :—

Md. Fazlul Karim (Non-collegiate Student, University Law College) .. Second Div.

A. P. DASGUPTA,
Controller of Examinations (Offg.).

Notification No. C/5689 (Affl.)

It is hereby notified for general information that under Section 21 of the Indian Universities Act 1904 (VIII of 1904) the Governor is pleased to order that with effect from the commencement of the session 1947-48 the Rishi Bankim Chandra College, Naihati, shall be affiliated to the Calcutta University in English, Bengali (Vernacular and Alternative Vernacular), Sanskrit, History, Elements of Civics and Economics, Logic, Mathematics, Commercial Geography, Commercial Arithmetic and Elements of Book-Keeping up to the Intermediate Arts Standard with permission to present candidates in these subjects from the Examination of 1949 and not earlier.

S. C. GHOSH,
Registrar